User's Manual

A Pentium 4 Processor based mainboard (400/533MHz)

Supports PC1600/2100/2700 Memory Modules (DDR Memory)

TRADEMARK

All products and company names are trademarks or registered trademarks of their respective holders.

These specifications are subject to change without notice.

Manual Revision 1.0
June 20, 2002

6000002DAE100

Table of Contents

Page

Section 1 ***Introduction***

Components Checklist 1-1

Overview

Intel Pentium 4 Processors 1-2
Accelerated Graphics Port 1-3
Utlra ATA66/100 1-3
Hardware Monitoring 1-4
Mainboard Form-Factor 1-5
I/O Shield Connector 1-6
Power-On/Off (Remote) 1-6
System Block Diagram 1-7

Section 2 ***Features***

Mainboard Features 2-1

Section 3 ***Installation***

Mainboard Detailed Layout 3-2

Easy Installation Procedure

CPU Installation 3-3
Jumper Settings 3-5
System Memory Configuration 3-6
Device Connectors 3-8
STR Function 3-12

Section 4 ***Award BIOS Setup***

Main Menu 4-1
Standard CMOS Setup 4-3
Advanced BIOS Features 4-7
Advanced Chipset Features 4-11
Integrated Peripherals 4-14

Power Management Setup 4-19
PNP/PCI Configuration Setup 4-24
PC Health Status 4-26
Frequency/Voltage Control 4-28
Defaults Menu 4-30
Set Supervisor/User Password Setting 4-31
Exit Selecting 4-32

Section 5 ***Driver Installation***
Easy Driver Installation 5-1

Appendix ***Appendix A***
Avance Media Player User's Guide A-1

Appendix B
EEPROM BOIS Remover B-1

Appendix C
Update Your System BIOS C-1

Appendix D
GHOST 5.1/6.03 Quick User's Guide (Optional) ... D-1

Section 1
INTRODUCTION

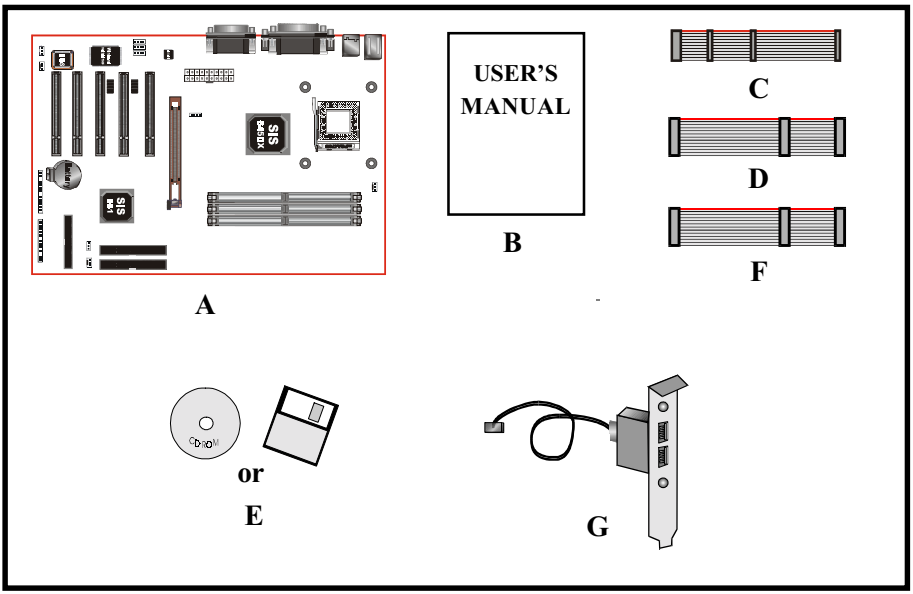
Components Checklist

Package Contents

- ☑ A. (1) Mainboard
- ☑ B. (1) User's manual
- ☑ C. (1) Floppy ribbon cable
- ☑ D. (1) ATA-66/100 Hard drive ribbon cable
- ☑ E. (1) Driver and utility

Optional Item

- ☐ F. (1) ATA-33 Hard drive ribbon cable
- ☐ G. (1) USB Cable



Intel Pentium 4 processors

Formally known as the Willamette, the Pentium™ 4 is the next generation IA-32 processor from Intel. This next generation design is based upon a new micro-architecture that brings higher clock speeds and performance than previous processors could deliver. Among other advanced features the Pentium 4 offers Streaming SIMD extensions 2, Advanced Dynamic Execution, Hyper Pipelined Technology, and a data transfer rate of 400/533MHz system bus.

Streaming SIMD Extensions 2
Building upon the foundations of core features of their previous line of processors the Pentium III, this new version introduces Streaming SIMD Extensions 2 technology commonly referred to as SSE2. But what does this mean? SIMD stands for Single Instruction Multiple Data. Usually, processors process one data element in one instruction, called Single Instruction Single Data, or SISD. In contrast, with Single Instruction Single Data (SISD), SIMD has the ability to process more than one piece of data element during one instruction.

This technology is useful for 3D graphics applications that handle considerable amounts of floating-point numbers. With SIMD applications such as 3D graphics will be able to processor more data per instruction when equates to better performance. This technology adds 144 new instructions to the CPU core that can be used in a wide variety of applications. Software programmers can for example, take advantage of these new instructions and write more optimized code that take advantage of newer SIMD double-precision floating-point, integer, and cache ability instructions. In theory this will enable better next generation services such as Interactive Digital TV to be produced.

Advanced Dynamic Execution
Advanced Dynamic Execution describes the improved implementation and abilities over the older P6 processor line's out-of-order decoupled super scalar execution. Dynamic execution allows instructions to the processor to be executed without the need to do so in order. The ability to do this can add a significant performance increase versus ordered execution.

Hyper Pipelined Technology & 400/533MHz System Bus
Hyper Pipelined Technology doubles the pipeline depth the Pentium 4 delivers to 20 stages. This significantly increases the performance and frequency capabilities. Pentium 4 also introduces a 400/533MHz system bus as opposed to the 100 and

133MHz bus seen in previous Pentium III processors. This allows 3.2Gbytes per second of throughput while the Pentium III had a limited 1.06Gbyte/s throughput. Willamette will reportedly be introduced in the 0.18-micron using aluminum.

For more information about all the cool new features the Pentium 4 delivers *check out the Intel website at http://www.intel.com*

Accelerated Graphics Port (AGP or A.G.P.)

Typically, 3D graphics rendering requires a tremendous amount of memory, and demands ever increasing throughput speed as well. As 3D products for the personal computer become more and more popular, these demands will only increase. This will cause a rise in costs for both end users and manufacturers. Lowering these costs as well as improving performance is the primary motivation behind AGP. By providing a massive increase in the bandwidth available between the video card and the processor, it will assist in relieving some of these pressures for quite sometime.

The board provides the AGP 2.0 interface. The AGP Interface Specification revision 2.0 enhances the functionality of the original AGP Interface Specification (revision 1.0) by allowing 4X data transfers (4 data samples per clock) and 1.5 volt (power supply) operation. The AGP 2.0 interface, along with SDRAM memory technology, allows graphics controllers to access main memory at over 1GB/s. In order to match the 2X and 4X AGP Card. The board used the Universal AGP connector.

Ultra ATA/66/100

The board provides two channel Ultra ATA/66/100 Bus Master IDE controllers, that support Ultra ATA/66/100 protocols, perfect for such demanding applications as real-time video, multimedia, and high performance operating system. A new IDE cable is required for Ultra ATA/66/100. This cable is an 80 conductor cable; however the connectors are, of course, backwards compatible with ATA/33.

Hardware Monitoring

Hardware monitoring allows you to monitor various aspects of your systems operations and status. The features include CPU temperature, voltage and RPM of fan.

Mainboard Form-Factor

The board is designed with ATX form factor - the latest industry standard of chassis. The ATX form factor is essentially a Baby-AT baseboard rotated 90 degrees within the chassis enclosure and a new mounting configuration for the power supply. With these changes the processor is relocated away from the expansion slots, allowing them all to hold full length add-in cards. ATX defines a double height aperture to the rear of the chassis which can be used to host a wide range of onboard I/O. Only the size and position of this aperture is defined, allowing PC manufacturers to add new I/O features (e.g.; TV input, TV output, joystick, modem, LAN, audio, etc.) to systems. This will help systems integrators differentiate their products in the marketplace, and better meet your needs.

- By integrating more I/O down onto the board and better positioning the hard drive and floppy connectors material cost of cables and add-in cards is reduced.
- By reducing the number of cables and components in the system, manufacturing time and inventory holding costs are reduced and reliability will increase.
- By using an optimized power supply, it's possible to reduce cooling costs and lower acoustical noise. An ATX power supply, which has a side-mounted fan, allows direct cooling of the processor and add-in cards making a secondary fan or active heatsink unnecessary in most system applications.

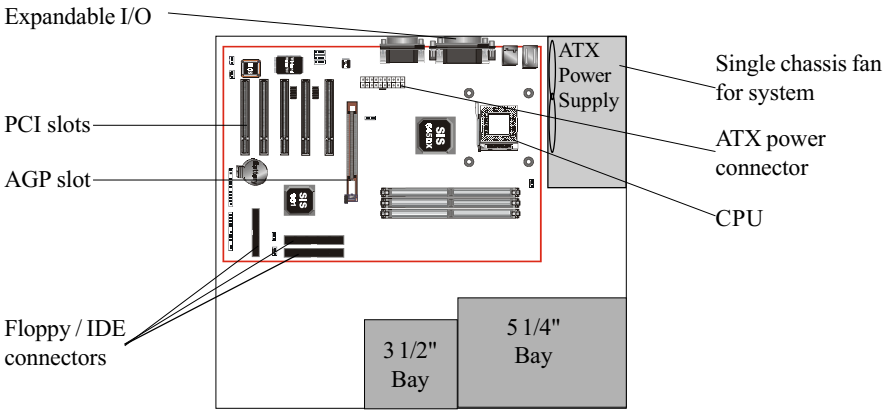


Figure 2: Summary of ATX chassis features

I/O Shield Connector

The board is equipped with an I/O back panel. Please use the appropriate I/O shield (figure 3).

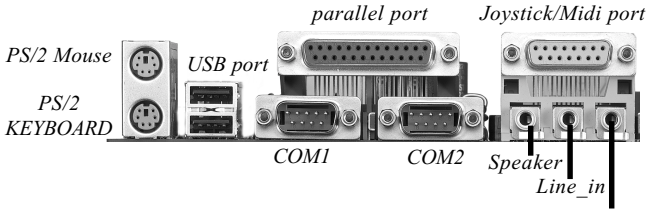


Figure 3: I/O back panel layout

Power-On/Off (Remote)

The board has a single 20-pin connector for ATX power supplies. For ATX power supplies that support the **Remote On/Off** feature, this should be connected to the systems front panel for system Power On/Off button. The systems power On/Off button should be a momentary button that is normally open.

The board has been designed with “Soft Off" functions. You can turn Off the system from one of two sources: The first is the front panel Power On/Off button, and the other is the "Soft Off" function (coming from the BOARD’s onboard circuit controller) that can be controlled by the operating system such as Windows® 95/98 and Windows® 2000 to Shutdown the system.

Note: For maintaining the DDR SDRAM power during STR (ACPI S3) function, it is strongly recommend to use ATX power supplies that have a +5VSB current of (>=) 1A (1000mA). Please check the 5VSB’s specification that has been printed on the ATX power supply’s outer case.

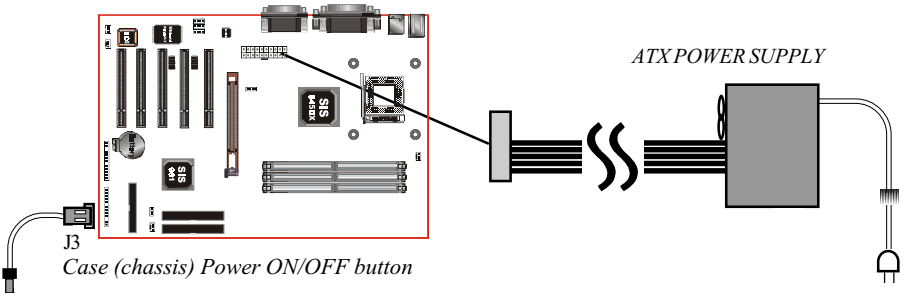


Figure 4: Simple ATX Power ON/OFF Controller

System Block Diagram

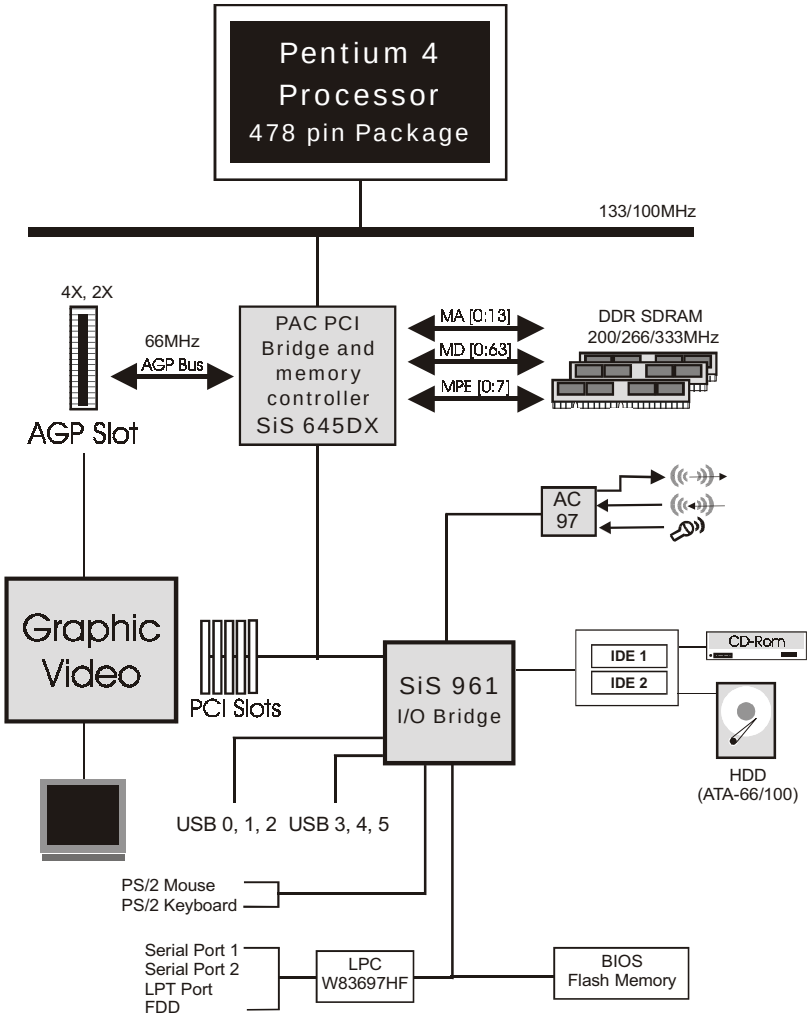


Figure 5: System Block Diagram

Page Left Blank

Section 2
FEATURES

Mainboard Features:

- **PROCESSOR**
  - Intel® Pentium 4 Processor with FC-PGA2 socket 478 package: Operating at 1.4 ~ 2.4GHz
- **CHIPSET**
  - SiS 645DX Chipset (SiS 645DX + SiS 961)
- **Front Side Bus**
  - 400/533MHz
- **DRAM MODULE**
  - 184pin DDR DIMM x 3 for PC1600/2100 (PC2700 with DIMM1 & DIMM2) Memory
  - DRAM Size: 64MB to 3GB
- **EXPANSION SLOT**
  - PCI x 5
  - 4X AGP x 1
- **ONBOARD I/O**
  - Winbond W83697HF LPC I/O integrated with K/B , Mouse, FDD, Parallel and Serial, Fast IR and Power-ON controllers
- **ONBOARD PCI / IDE**

  SiS 961 Controller
  - PCI Rev. 2.2 Compliant
  - ACPI Compliant Power Management
  - AC97 2.2 Compliant Link for Audio CODEC

- LPC Interface 1.0 Compliance
- PCI Bus IDE Port with PIO /**Ultra DMA-66/100** x 2 (Up to 4 Devices)

◆ **I/O CONNECTOR**

- PS/2 Mouse and PS/2 style Keyboard
- COM1, COM2, Printer, Audio-in/out, MIC & Game port connectors

◆ **USB**

- USB connector x 6 (4 for Opt.)

◆ **Built-in AC97 Digital Audio**

- Dual full-duplex Direct Sound channels
- FM synthesis for legacy compatibility
- Supports Game and MIDI port

◆ **BIOS**

- Award Plug & Play BIOS

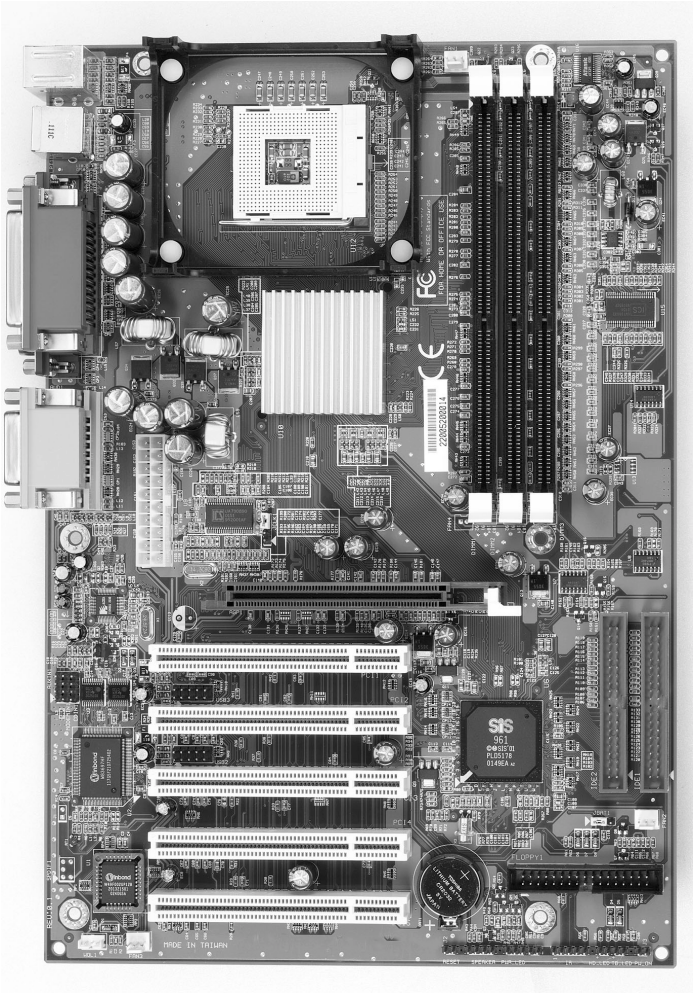
◆ **EXTENDED FUNCTION**

- Supports Hardware Monitoring Function by W83697HF
- Supports exclusive KBPO (Keyboard Power ON) Function
- Supports STR (Suspend To RAM) power saving Function
- Supports Wake-On-LAN Function
- Supports CPU Clock Settings via BIOS
- Supports CPU Vcore, AGP and Memory Voltage Settings via BIOS
- Supports “Magic Health” and “Easy Boot” Function

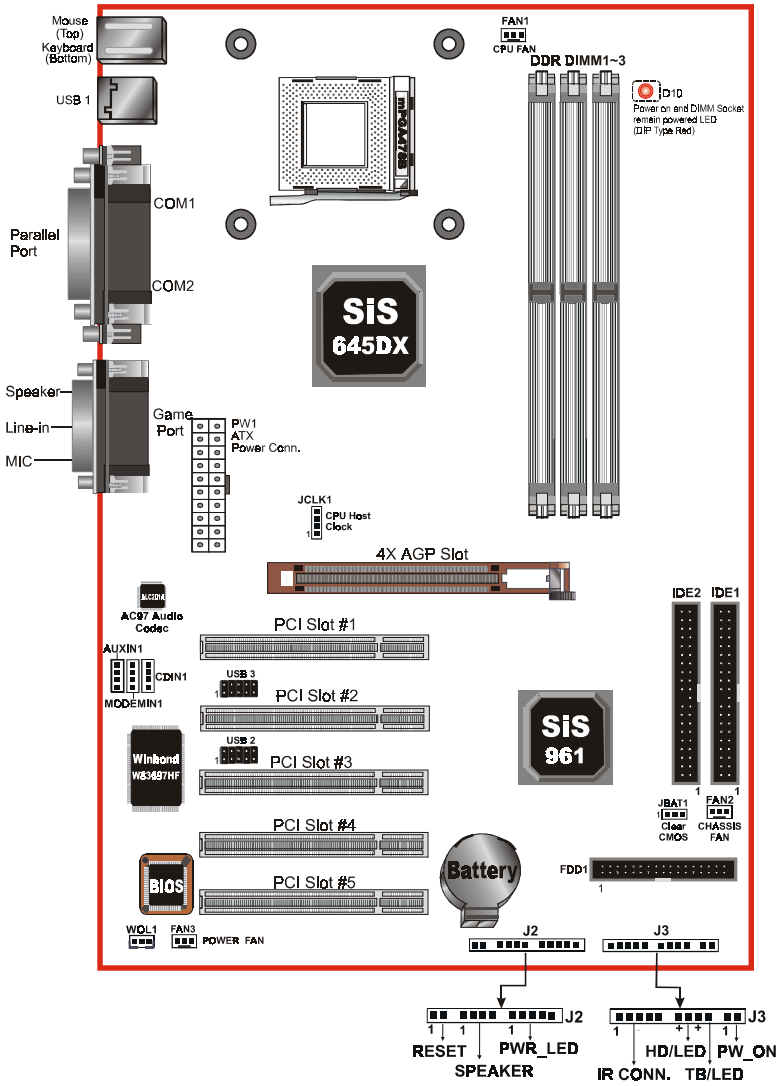
◆ **FORM FACTOR**

- 305mm x 210mm ATX Size

Section 3
INSTALLATION



Mainboard Detailed Layout



Easy Installation Procedure

The following must be completed before powering on your new system:

3-1. CPU Installation

3-2. Jumper Settings

3-3. System Memory Configuration

3-4. Device Connectors

3-5. STR Function

Section 3-1
CPU Installation

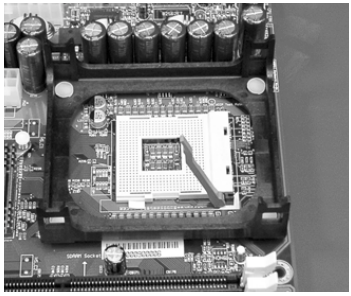


Figure 1

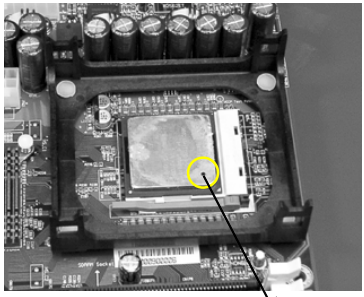


Figure 2

Step 1

Open the socket by raising the actuation lever.

Step 2

Insert the processor.

Ensure proper pin 1 orientation by aligning the FC-PGA2 corner marking with the socket corner closest to the actuation arm tip. The pin field is keyed to prevent mis-oriented insertion. Don't force processor into socket. If it does not go in easily, check for mis-orientation and debris. Make sure the processor is fully inserted into the socket on all sides.

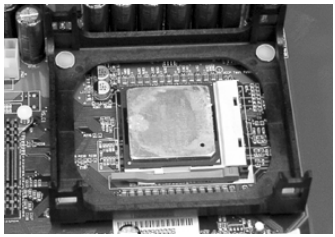


Figure 3

Step 3

Close the socket by lowering and locking the actuation lever.

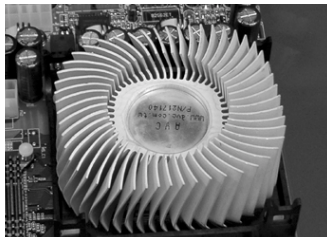


Figure 4

Step 4

Install the Fan Heatsink.

* Please do apply thermal compound between CPU and Heatsink.

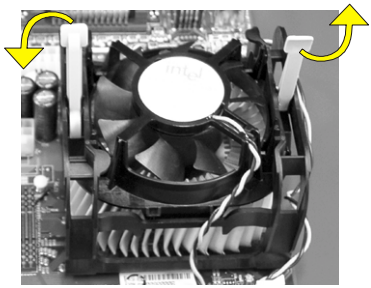


Figure 5

Step 5

Install the Shround Assembly and follow the arrow of Figure 5 for press the two Clip Assembly.

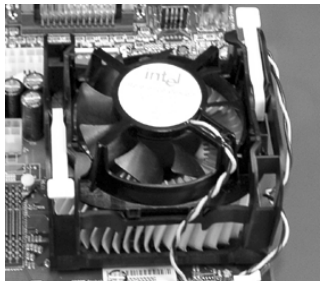


Figure 6

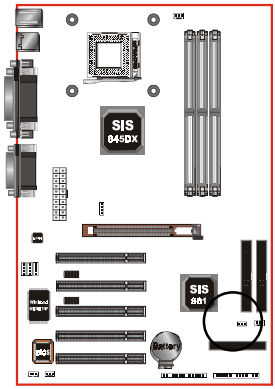
Step 6

Make sure the CPU fan is plugged to the CPU fan connector. The installation is completed.

NOTE:

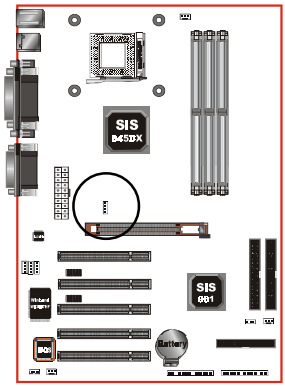
1. Intel Pentium™ 4 processor might be crashed if installed with a regular CPU Fan since it is equipped with all new micro- architecture that brings quite small size of CPU(Die). We recommend using Intel's reference design thermal solution which is an active heatsink; an extruded aluminum heatsink based and a fan attached to the top on the fin array.
   Additionally, please do apply heatsink thermal compound or paste and install CPU fan to avoid CPU overheated and damaged.
2. According to the guidance of Intel Corp, please do not install the same CPU over 50 times as it will bend the pins and damage the CPU.

Section 3-2
Jumper Settings



JBAT1

CMOS Clear
1-2: Normal (Default)
2-3: Clear CMOS



JCLK1

CPU Host Clock Select
1-2: 133MHz
2-3: 100MHz
3-4: AUTO (Default)

Section 3-3
System Memory Configuration

Memory Layout

The board supports (3) PC1600/2100/2700 184-pin DIMMs (Dual In-line Memory Module). The DIMMs is for DDR SDRAM (Double-Data-Rate Synchronous DRAM) only.

- Supports 64Mbit, 128Mbit, 256Mbit and 512Mbit technology.
- Supports up to 2 un-buffer DIMM DDR333 or up to 3 un-buffer Double-sided DIMM DDR266/200.
- Up to 1GB per DIMM with max. memory size up to 3GB.

Figure 7 and Table 1 show several possible memory configurations.

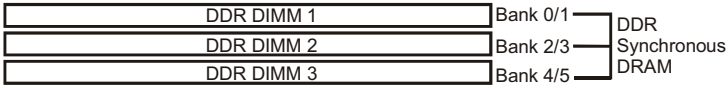


Figure 7

Total Memory	DDR DIMM 1 (Bank 0/1)	DDR DIMM 2 (Bank 2/3)	DDR DIMM 3 (Bank 4/5)
= 1GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None	None
= 2GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None
= 3GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1

Table 1

** DDR SDRAM supports 64, 128, 256, 512MB and 1GB DIMM modules.*

** 1GB module using 512Mb technology.*

**** This mainboard doesn't support ECC memory module.***

**** PC2700 memory module are used in DIMM 1 and DIMM 2 socket only.***

DIMM Module Installation

Figure 8 displays the notch marks and what they should look like on your DDR DIMM memory module.

DIMMs have 184-pins and one notch that will match with the onboard DDR DIMM socket. DIMM modules are installed by placing the chip firmly into the socket at a 90 degree angle and pressing straight down (figure 9) until it fits tightly into the DIMM socket (figure 10).

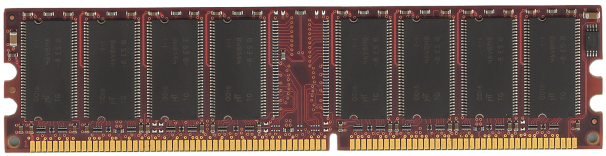


Figure 8

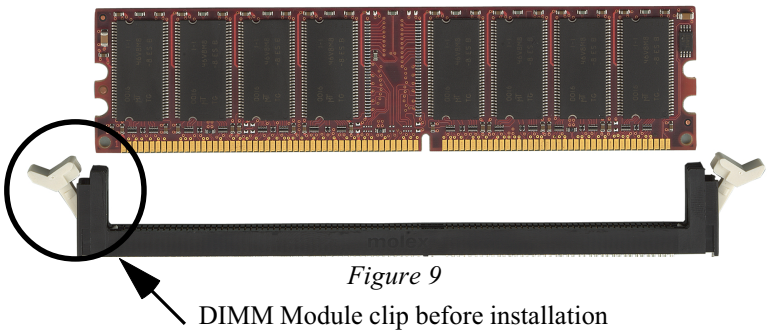


Figure 9

DIMM Module clip before installation

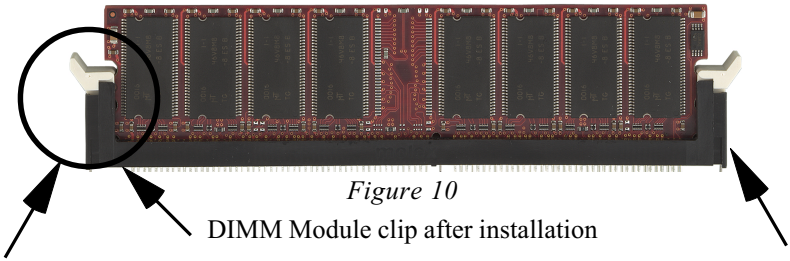


Figure 10

DIMM Module clip after installation

To remove the DIMM module simply press down both of the white clips on either side and the module will be released from the socket.

Section 3-4
Device Connectors

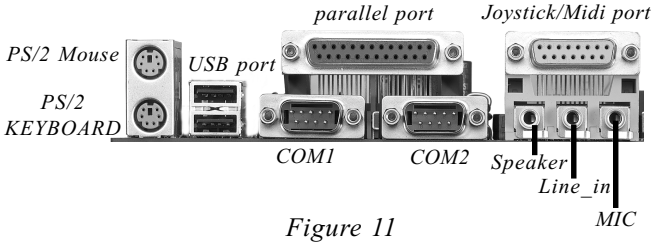
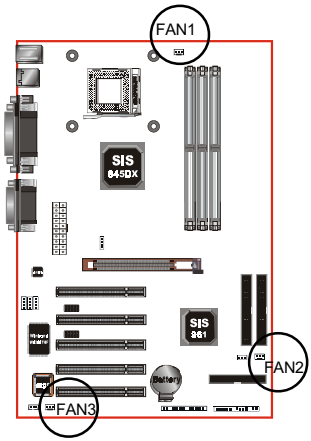


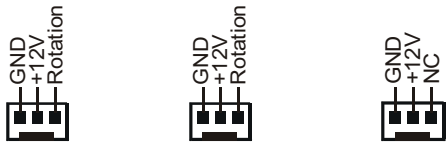
Figure 11

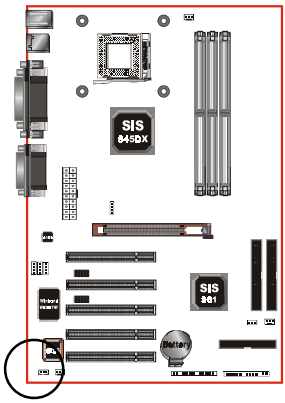


FAN1 / FAN2 / FAN3:

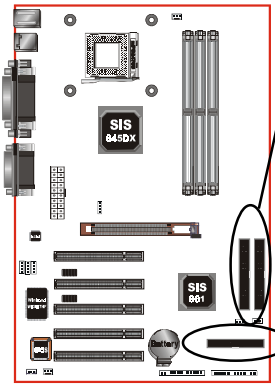
• The plug-in for CPU/Chassis/Power Fan power

FAN1:	FAN2:	FAN3:
CPU Fan	Chassis Fan	Power Fan



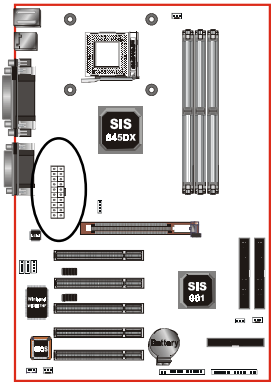


WOL1: WOL (Wake On LAN) Connector
Reserved for NIC (Network Interface Card) to wake the system.



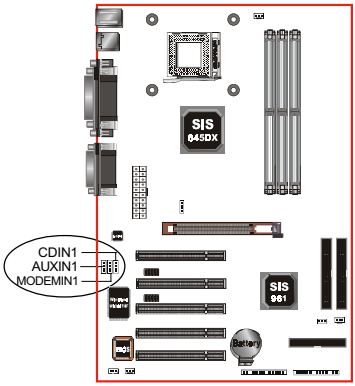
IDE1/2: Ultra DMA-66/100 Primary/Secondary IDE Connector (Blue color)

FDD1: Floppy Controller Connector (Black color)

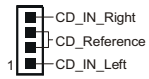


PW1: ATX Power Connector

- 20-pin power connector

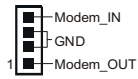


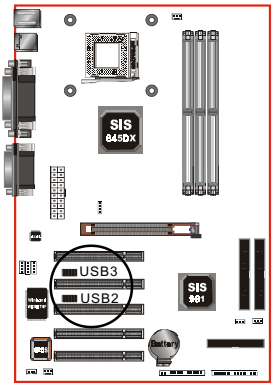
CDIN1: CD Audio_IN Connector



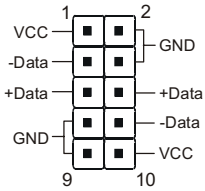
AUXIN1:Auxiliary Line_IN Connector

MODEMIN1: Telephony Connector for Modem audio output



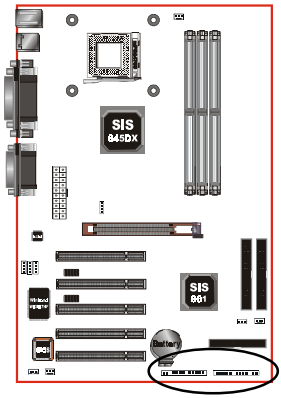


USB2/3: USB port header pins for share with four USB ports.

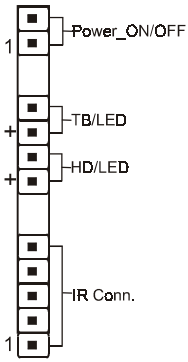


USB port header pin descriptions.

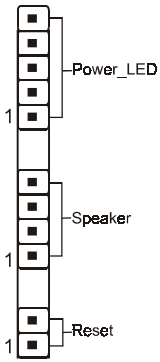
PIN#	Wire color	Signal Name	Comment
1	Red	Vcc	Cable Power
2	Black	Ground	Case Ground
3	White	-Data	Data
4	Black	Ground	Cable Ground
5	Green	+Data	Data
6	Green	+Data	Data
7	Black	Ground	Cable Ground
8	White	-Data	Data
9	Black	Ground	Case Ground
10	Red	Vcc	Cable Power



J3



J2



- **Power On/Off**
  (This is connected to the power button on the case. Using the Soft-Off by Pwr-BTTN feature, you can choose either Instant Off (turns system off immediately), or 4 sec delay (you need to push the button down for 4 seconds before the system turns off). When the system is in 4 sec delay mode, suspend mode is enabled by pushing the button momentarily.)

- **Turbo LED indicator**
  LED ON when higher speed is selected

- **IDE LED indicator**
  LED ON when Onboard PCI IDE Hard disks is activate

- **IR Connector**
  1. VCC 4. GND
  2. NC 5. IRTX
  3. IRRX

- **Power LED**
  Power LED connector
  1. Power LED(+) 4. NC
  2. N/C 5. GND
  3. GND

- **Speaker**
  Connect to the system's speaker for beeping
  1. Speaker 3. GND
  2. N/C 4. GND

- **Reset**
  Closed to restart system.

3-5 STR (Suspend To RAM) Function

The board supports the STR power management state by maintaining the appropriate states on the DDR SDRAM interface signals. The power source must be kept alive to the DDR SDRAM during STR (ACPI S3). Advanced Configuration Power Interface (ACPI) provides more Energy Saving Features for operating systems that supporting Instant ON and QuickStart™ function.

1. To enable the ACPI function and use the STR functionally to save your system energy, you are recommended to confirm the following requirements:

   a. Please do install all ACPI qualified add-on cards such as AGP, LAN, Modem cards.

   b. In BIOS, please select "ACPI function: Enable" and "ACPI Suspend Type: S3(STR)" in the Power Management Setup menu.

   c. Then, please install the Windows® 98SE/ME or Windows® 2000.

   d. Restart your system.

   e. Getting in to the "Advanced" of the Power Management icon of Control Panel, and selecting the "Stand By" in the Power Buttons.

2. Getting start with STR function, please click the START button and choose Shut Down. Then, select the Stand By option in the Shut Down Windows box to get into STR mode.

   Here are the differences between STR power saving mode and Green (or Suspend) mode:

   a. It is the most advanced Power Management mode

   b. It cuts all the power supplied to peripherals except to Memory - max. power saving

   c. It saves and keeps all on-screen data including any executed applications to DDR SDRAM.

d. You must push the Power button connected with onboard J3 pin to wake up your system (not to click to PS/2 mouse or press PS/2 keyboard to wake up the system).

Just pushing Power button, your system will quickly back to the last screen for you.

The “LED Indicator for ACPI Status” table shown below will guide you and give you a reference for ACPI status on this mainboard.

ACPI Onboard’s LED Status Indicator Table

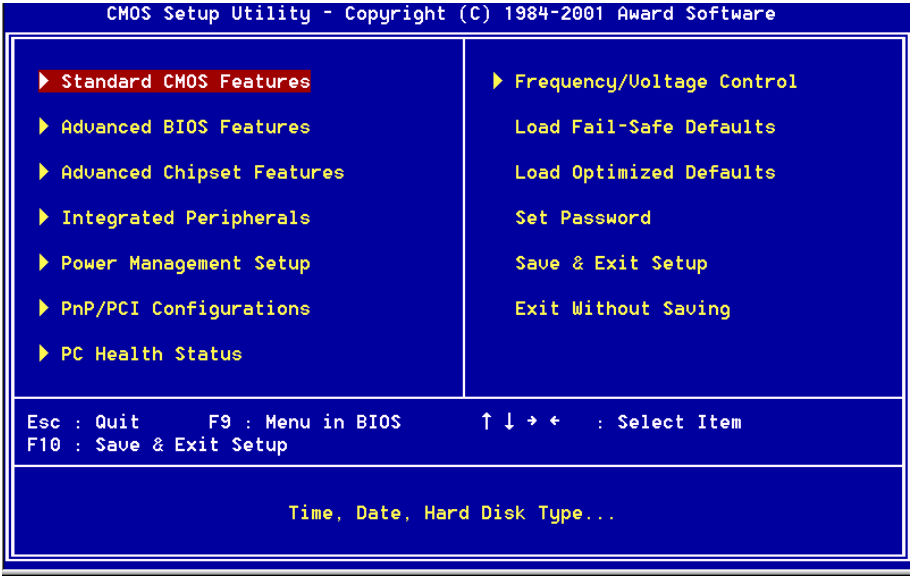
Onboard’s LED Location	Status				
	Plug in the ATX Power Core	Power ON J3(PW-ON)	Green Mode (S1)	STR (S3)	Shutdown (Soft-OFF) (S5)
D10 (Red LED)	OFF	ON	ON	ON	OFF
J2 PW_LED	OFF	ON	Blinking	Slow Blinking	OFF

Page Left Blank

Section 4
BIOS SETUP

Main Menu

Once you enter the AwardBIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.



Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP / PCI Configuration

This entry appears if your system supports PnP / PCI.

PC Health Status

This item is only show the system health status (include Voltage, Fan speed, CPU temperature...)

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Set Password

Use this menu to set Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

4-1 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

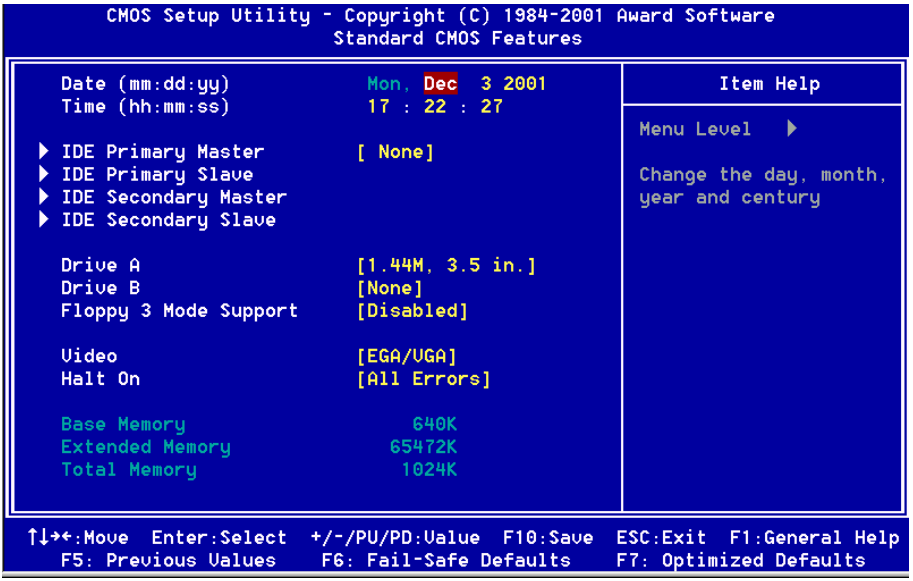

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Standard CMOS Features
Date (mm:dd:yy) Mon, Dec 3 2001
Time (hh:mm:ss) 17 : 22 : 27
IDE Primary Master [None]
IDE Primary Slave
IDE Secondary Master
IDE Secondary Slave
Drive A [1.44M, 3.5 in.]
Drive B [None]
Floppy 3 Mode Support [Disabled]
Video [EGA/VGA]
Halt On [All Errors]
Base Memory 640K
Extended Memory 65472K
Total Memory 1024K
Item Help
Menu Level
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 1: The Main Menu

Main Menu Selections

This table shows the selections that you can make on the Main Menu

Item	Options	Description
Date	Month DD YYYY	Set the system date. Note that the 'Day' automatically hanges when you set the date
Time	HH : MM : SS	Set the system time
IDE Primary Master	Options are in its sub menu (described in Table 3)	Press <Enter> to enter the sub menu of detailed options
IDE Primary Slave	Options are in its sub menu (described in Table 3)	Press <Enter> to enter the sub menu of detailed options
IDE Secondary Master	Options are in its sub menu (described in Table 3)	Press <Enter> to enter the sub menu of detailed options
IDE Secondary Slave	Options are in its sub menu (described in Table 3)	Press <Enter> to enter the sub menu of detailed options
Drive A Drive B	None 360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in	Select the type of floppy disk drive installed in your system
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify you
Base Memory	N/A	Displays the amount of conventional memory detected during boot up
Extended Memory	N/A	Displays the amount of extended memory detected during boot up
Total Memory	N/A	Displays the total memory available in the system

Table 2 Main Menu Selections

IDE Adapters

The IDE adapters control the hard disk drive. Use a separate sub menu to configure each hard disk drive.

Figure 2 shows the IDE primary master sub menu.

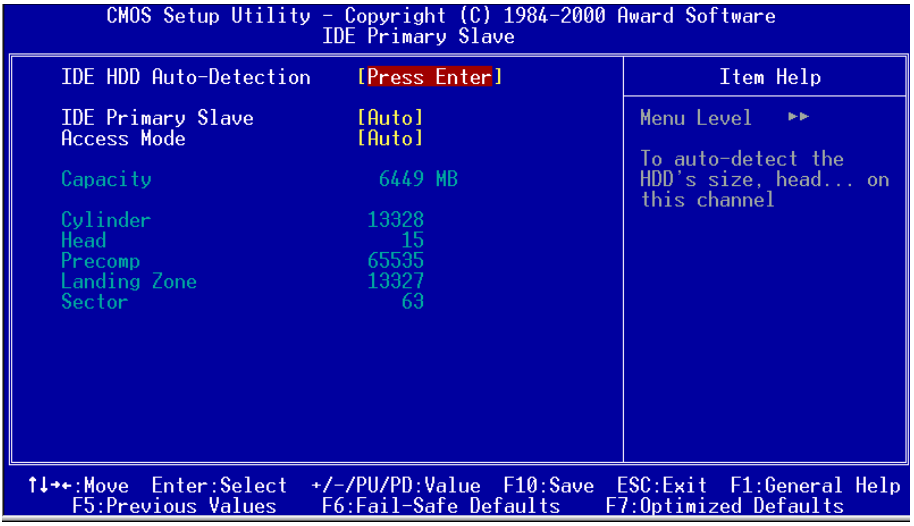


Figure 2 IDE Primary Master sub menu

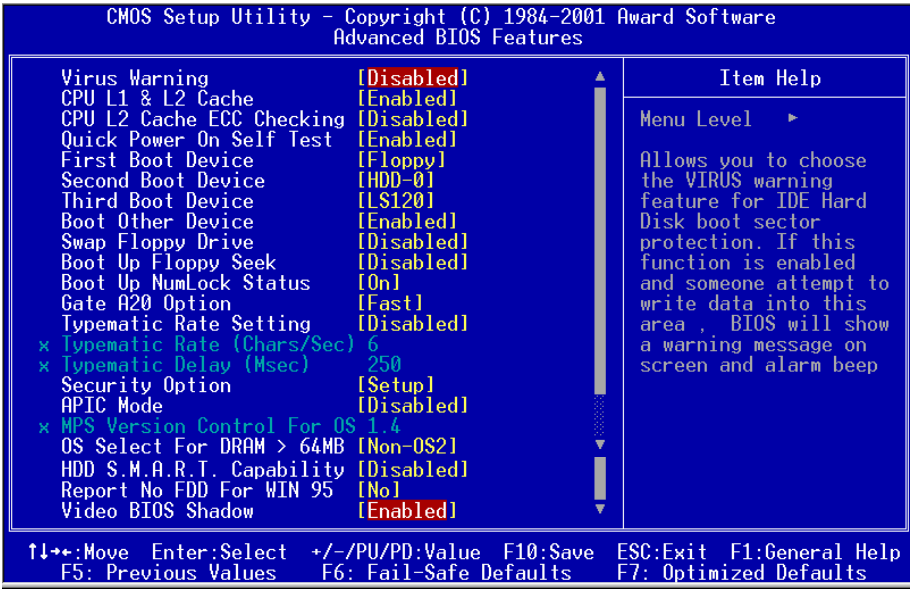
Use the legend keys to navigate through this menu and exit to the main menu. Use Table 3 to configure the hard disk.

Item	Options	Description
IIDE HDD Auto-detection	Press Enter	Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.
IDE Primary Master	None Auto Manual	Selecting 'manual' lets you set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc. Note: PRECOMP=65535 means NONE !
Capacity	Auto Display your disk drive size	Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.
Access Mode	Normal LBA Large Auto	Choose the access mode for this hard disk
The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual'		
Cylinder	Min = 0 Max = 65535	Set the number of cylinders for this hard disk.
Head	Min = 0 Max = 255	Set the number of read/write heads
Precomp	Min = 0 Max = 65535	**** **Warning**: Setting a value of 65535 means no hard disk
Landing zone	Min = 0 Max = 65535	****
Sector	Min = 0 Max = 255	Number of sectors per track

Table 3 Hard disk selections

4-2 Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Advanced BIOS Features
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
CPU L2 Cache ECC Checking [Disabled]
Quick Power On Self Test [Enabled]
First Boot Device [Floppy]
Second Boot Device [HDD-0]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Disabled]
x MPS Version Control For OS 1.4
OS Select For DRAM > 64MB [Non-OS2]
HDD S.M.A.R.T. Capability [Disabled]
Report No FDD For WIN 95 [No]
Video BIOS Shadow [Enabled]
Item Help
Menu Level ▸
Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area , BIOS will show a warning message on screen and alarm beep
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Virus Warning

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Enabled: Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Disabled: No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

CPU L1 & L2 Cache

These two categories speed up memory access. However, it depends on CPU/chipset design.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC checking.
The choice: Enabled, Disabled.

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.
Enabled: Enable quick POST
Disabled: Normal POST

First/Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
The Choice: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, Disabled.

Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.
The choice: Enabled, Disabled.

Boot Up Floppy Seek

Seeks disk drives during boot up. Disabling speeds boot up.
The choice: Enabled, Disabled.

Boot Up NumLock Status

Select power on state for NumLock.
The choice: On/Off.

Gate A20 Option

Select if chipset or keyboard controller should control GateA20.

Normal: A pin in the keyboard controller controls GateA20

Fast: Lets chipset control GateA20

Typematic Rate Setting

Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.
The choice: Enabled/Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a key stroke when you hold the key down.

The choice: 6, 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The choice: 250, 500, 750, 1000.

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

System — The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

Setup — The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

APIC Mode

This item allows you to enable or disable the Advanced Programmable Interrupt Controller.

Tge choice: Enabled, Disabled.

OS Select For DRAM > 64MB

Select the operating system that is running with greater than 64MB of RAM on the system. The choice: Non-OS2, OS2.

HDD S.M.A.R.T. Capability

This item allows you to choose the HDD S.M.A.R.T for detect HDD condition.

The choice: Enabled, Disabled.

Report No FDD For Win 95

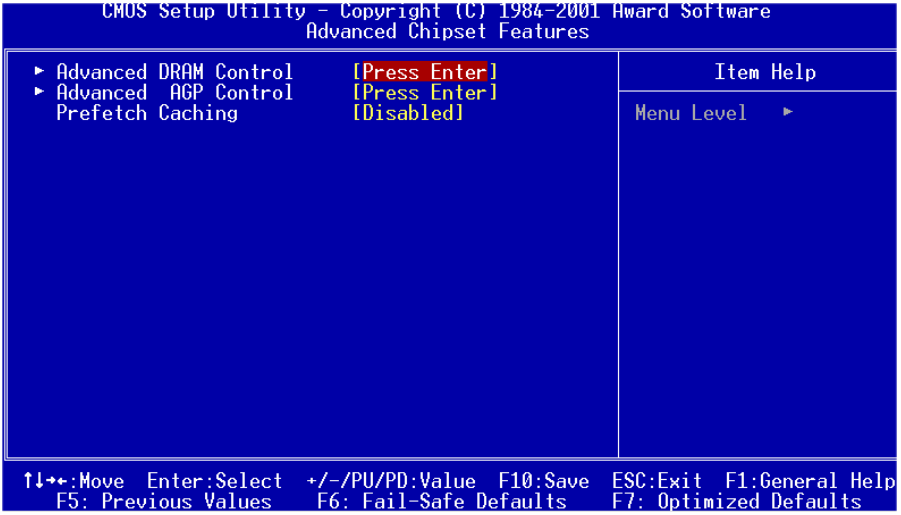
Whether report no FDD for Win 95 or not.

The choice: Yes, No.

Video BIOS Shadow

This option allows video BIOS to be copied into RAM. Video Shadowing will increase the video performance of your system.
The choice: Enabled, Disabled.

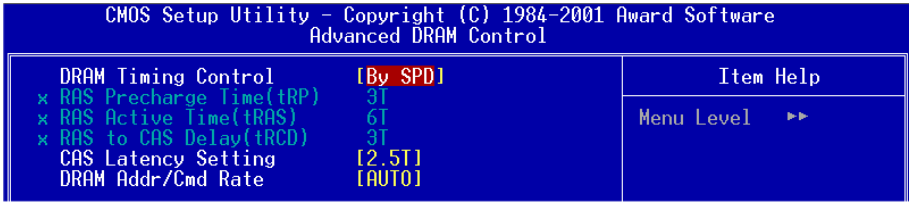
4-3 Advanced Chipset Features


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Advanced Chipset Features
Advanced DRAM Control [Press Enter]
Advanced AGP Control [Press Enter]
Prefetch Caching [Disabled]
Item Help
Menu Level ►
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

Prefetch Caching

PCI slave control Prefetch Caching.
The Choice: Enabled, Disabled.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Advanced DRAM Control
DRAM Timing Control [By SPD]
x RAS Precharge Time(tRP) 3T
x RAS Active Time(tRAS) 6T
x RAS to CAS Delay(tRCD) 3T
CAS Latency Setting [2.5T]
DRAM Addr/Cmd Rate [AUTO]
Item Help
Menu Level ▸▸

▸ Advanced DRAM Control

DRAM Timing Control

For setting DRAM Timing, By SPD is follow Intel PC SDRAM Serial Presence Detect Specification.

The Choice: Manuel, By SPD.

RAS Precharge Time (tRP)

This item indicates the Trp timing value (precharge time: time from precharge to activate on the same bank).

The Choice: 3T, 2T, 4T.

RAS Active Time (tRAS)

This item indicates the Tras timing value (minimum bank active time: time from active to precharge on the same bank).

The Choice: 6T, 7T, 5T, 4T.

RAS to CAS Delay (tRCD)

This item indicates the Trcd timing value (RAS to CAS latency delay from activate to RD/WR command).

The Choice: 3T, 2T, 4T.

CAS Latency Setting

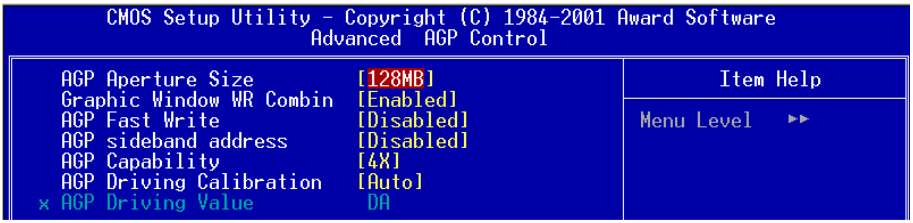
When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

The Choice: 2T, 2.5T, 3T.

DRAM Addr/Cmd Rate

Setup the timing at each cycle.

The Choice: Auto, 1T, 2T.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Advanced AGP Control
AGP Aperture Size [128MB]
Graphic Window WR Combin [Enabled]
AGP Fast Write [Disabled]
AGP sideband address [Disabled]
AGP Capability [4X]
AGP Driving Calibration [Auto]
x AGP Driving Value DA
Item Help
Menu Level ▸▸

Advanced AGP Control

AGP Aperture Size

The amount of system memory that the AGP card is allowed to share. The default is 128MB.

The Choice: 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB.

Graphic Window WR Combin

To program P6 class CPU video RAM cache write-combination mode to enhance 3D video performance.

The choice: Enabled, Disabled.

AGP Fast Write

Selecting enabled allows to use Fast Write Protocol for 4X AGP Card.

The choice: Enabled, Disabled.

AGP Sideband Address

Selecting enabled allows to use AGP Sideband Address for AGP Card.

The choice: Enabled, Disabled.

AGP Capability

AGP Mode support select.

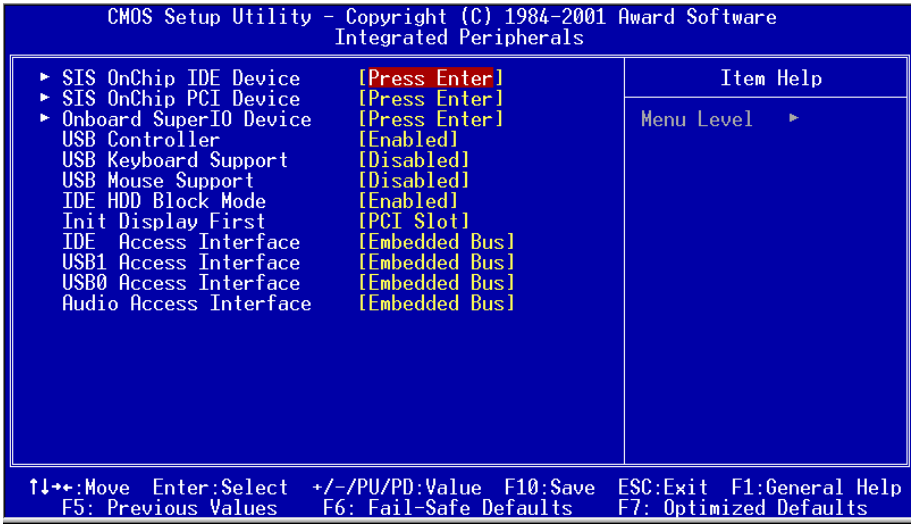
The choice: 4X, 2X, 1X.

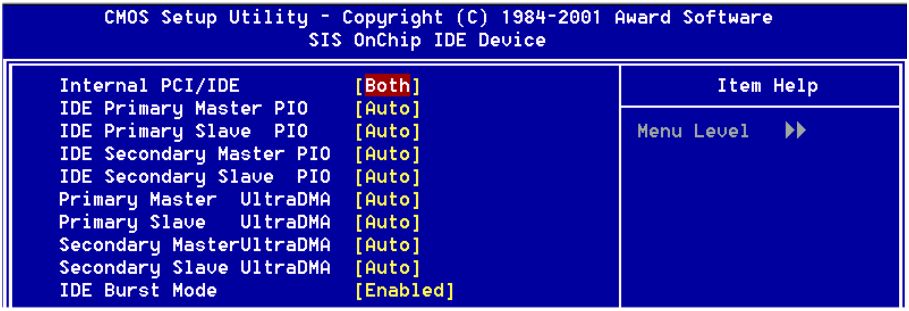
AGP Diving Calibration

This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in **Auto** for avoiding any error in your system.

The choice: Auto, Manual.

4-4 Integrated Peripherals


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Integrated Peripherals
SIS OnChip IDE Device [Press Enter]
SIS OnChip PCI Device [Press Enter]
Onboard SuperIO Device [Press Enter]
USB Controller [Enabled]
USB Keyboard Support [Disabled]
USB Mouse Support [Disabled]
IDE HDD Block Mode [Enabled]
Init Display First [PCI Slot]
IDE Access Interface [Embedded Bus]
USB1 Access Interface [Embedded Bus]
USB0 Access Interface [Embedded Bus]
Audio Access Interface [Embedded Bus]
Item Help
Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
SIS OnChip IDE Device
Internal PCI/IDE [Both]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
Primary Master UltraDMA [Auto]
Primary Slave UltraDMA [Auto]
Secondary MasterUltraDMA [Auto]
Secondary Slave UltraDMA [Auto]
IDE Burst Mode [Enabled]
Item Help
Menu Level ▸▸

▸ SIS OnChip IDE Device

Internal PCI/IDE

This chipset contains an internal PCI IDE interface with support for two IDE channels.

The choice: Primary, Secondary, Both, Disabled.

IDE Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0

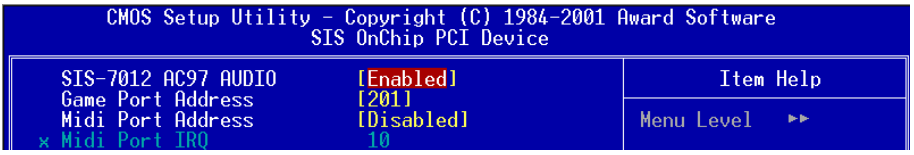
through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary/Secondary Master/Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.
The Choice: Auto, Disabled.

IDE Burst Mode

Selecting Enabled reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled.
The choice: Enabled, Disabled.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
SIS OnChip PCI Device
SIS-7012 AC97 AUDIO [Enabled]
Game Port Address [201]
Midi Port Address [Disabled]
x Midi Port IRQ 10
Item Help
Menu Level ▸▸

▸ SIS OnChip PCI Device

SIS-7012 AC97 AUDIO

Select Enabled to support AC97 Audio.
The choice: Enabled, Disabled.

Game Port Address

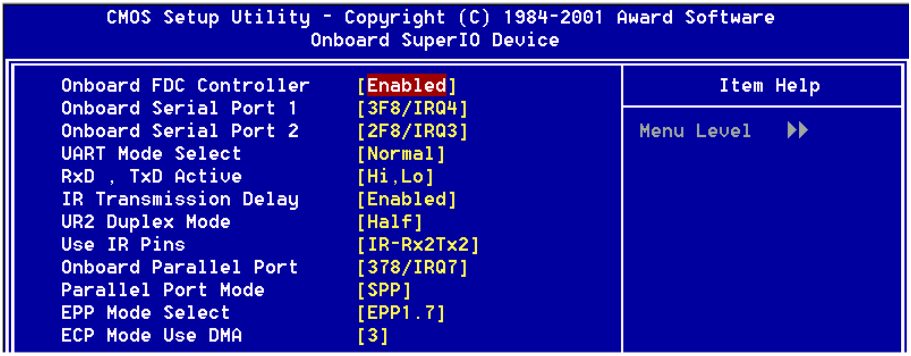
Select an address for the Game port.
The choice: 201, 209, Disabled.

Midi Port Address

Select an address for the Midi port.
The choice: 290, 300, 330, Disabled.

Midi Port IRQ

Select an interrupt for the Midi port.
The choice: 5, 10.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Onboard SuperIO Device
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
UART Mode Select [Normal]
RxD , TxD Active [Hi,Lo]
IR Transmission Delay [Enabled]
UR2 Duplex Mode [Half]
Use IR Pins [IR-Rx2Tx2]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
EPP Mode Select [EPP1.7]
ECP Mode Use DMA [3]
Item Help
Menu Level ▶▶

▸ Onboard Super IO Device

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled in this field.
The choice: Enabled, Disabled.

Onboard Serial Port 1/Port 2

Select an address and corresponding interrupt for the first and second serial ports.
The choice: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART Mode Select

This filed allows the users to configure what IR mode the 2nd serial port should use.
The default is Normal.
Optional: Normal, IrDA and ASKIR.

RxD, TxD Active

This field configures the receive and transmit signals generated from the IR port.
The default is Hi Lo (when UART Mode Select is not set to Normal).
Options: Hi Hi, Hi Lo, Lo Hi, and Lo Lo.

IR Transmission delay

The default is Enabled (when UART Mode Select is not set to Normal).
Options: Enabled and Disabled.

UR2 Duplex Mode

This item allows you to select IR half/full duplex function.
The choice: Half, Full

Use IR Pins

This item allows you to select IR transmission routes, one is RxD2, TxD2 (COM Port) and the other is IR-Rx2Tx2.
The choice: IR-Rx2Tx2, RxD2, TxD2.

Onboard Parallel port

This field allows the user to configure the LPT port.
The choice: 378H / IRQ7, 278H/IRQ5, 3BCH/IRQ7, Disabled.

Parallel Port Mode

This field allows the user to select the parallel port mode.
The choice: ECP+EPP, EPP, ECP.

EPP Mode Select

This item allows you to determine the IR transfer mode of onboard I/O chip.
options: EPP1.9, EPP1.7.

ECP Mode USE DMA

This field allows the user to select DMA1 or DMA3 for the ECP mode.
The choice: 1,3.

USB Controller

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.
The choice: Enabled, Disabled.

USB Keyboard/Mouse Support

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB peripherals.
The choice: Enabled, Disabled.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.
The choice: Enabled, Disabled.

Init Display First

This item allows you to decide to active whether PCI Slot or on-chip VGA first
The choice: PCI Slot, Onboard.

IDE Access Interface

IDE Access Interface Selection.
The choice: Embedded Bus, PCI Bus.

USB1/0 Access Interface

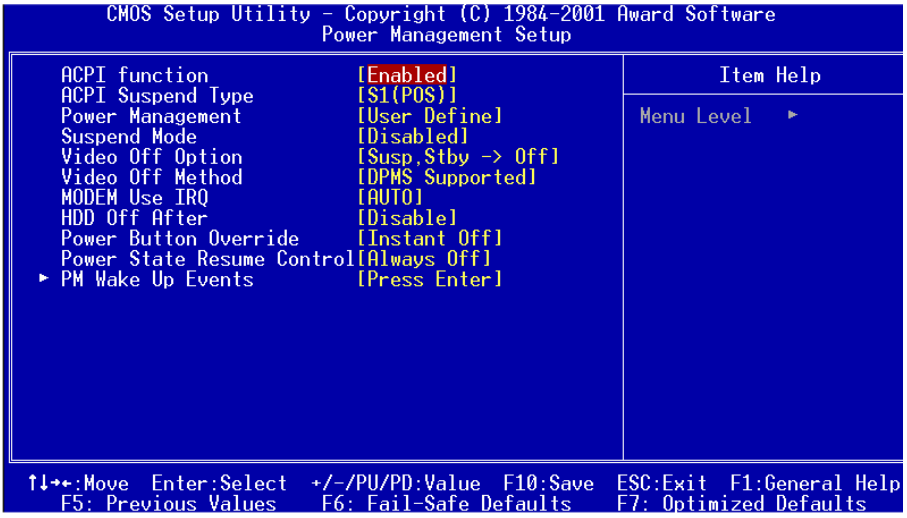
IDE Access Interface Selection.
The choice: Embedded Bus, PCI Bus.

Audio Access Interface

IDE Access Interface Selection.
The choice: Embedded Bus, PCI Bus.

4-5 Power Management Setup

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S1(POS)]
Power Management [User Define]
Suspend Mode [Disabled]
Video Off Option [Susp,Stby -> Off]
Video Off Method [DPMS Supported]
MODEM Use IRQ [AUTO]
HDD Off After [Disable]
Power Button Override [Instant Off]
Power State Resume Control [Always Off]
PM Wake Up Events [Press Enter]
Item Help
Menu Level ►
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).
The choice: Enabled, Disabled.

ACPI Suspend Type

This item allows you to select S1(POS) or S3(STR) function.
The choice: S1(POS), S3(STR).

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. HDD Power Down
2. Suspend Mode

There are four selections for Power Management, three of which have fixed mode settings.

Disable (default)	No power management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -- **ONLY AVAILABLE FOR SL CPU's**. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.
The choice: Enabled, Disabled.

Video Off Method

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend --> Off	Monitor blanked when the systems enters the Suspend mode.
Susp,Stby --> Off	Monitor blanked when the system enters either Suspend or Standby modes.
All Modes --> Off	Monitor blanked when the system enters any power saving mode.

Video Off Method

This determines the manner in which the monitoris blanked.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

.

MODEM Use IRQ

This determines the IRQ in which the MODEM can use.
The choice: 3, 4, 5, 7, 9, 10, 11, NA.

HDD Off After

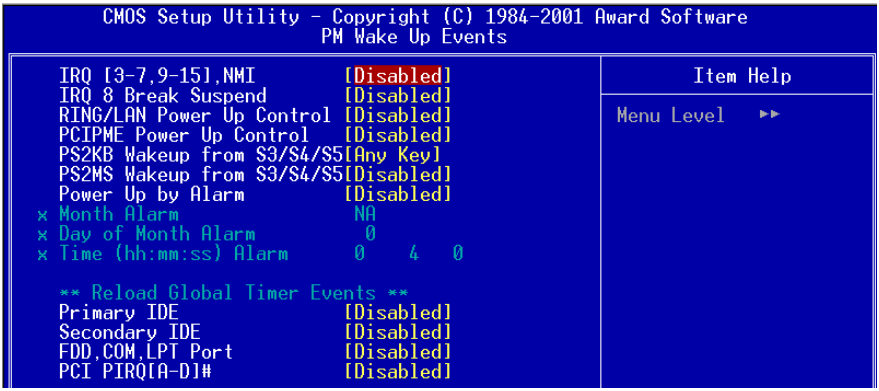
By default, this item is Disabled, meaning that no matter the mode the rest of the system, the hard drive will remain ready. Otherwise, you have a range of choices from 1 to 15 minutes or Suspend. This means that you can elect to have your hard disk drive be turned off after a selected number of minutes or when the rest of the system goes into a Suspend mode.

Power Button Override

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung." The default is Instant-off.
The choice: Delay 4 Sec, Instant-Off.

Power State Resume Control

The system will stay of or power on after a power interrupt. The default is Always Off.
Always Off: System always stay off after a power interrupt.
Always On: System always power on after a power interrupt.
Keep-State: Stay off or power on depend on system safe shutdown or power fail.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
PM Wake Up Events
IRQ [3-7,9-15],NMI [Disabled]
IRQ 8 Break Suspend [Disabled]
RING/LAN Power Up Control [Disabled]
PCIPME Power Up Control [Disabled]
PS2KB Wakeup from S3/S4/S5 [Any Key]
PS2MS Wakeup from S3/S4/S5 [Disabled]
Power Up by Alarm [Disabled]
x Month Alarm NA
x Day of Month Alarm 0
x Time (hh:mm:ss) Alarm 0 4 0
** Reload Global Timer Events **
Primary IDE [Disabled]
Secondary IDE [Disabled]
FDD,COM,LPT Port [Disabled]
PCI PIRQ[A-D]# [Disabled]
Item Help
Menu Level ▸▸

▸ PM Wake Up Events

IRQ[3-7,9-15], NMI

Allows you to set system to monitor IRQ[3-7,9-15], NMI for activity to awaken system form a power management mode.
The choice: Enabled, Disabled.

IRQ 8 Break Suspend

You can Enable or Disable monitoring of IRQ8 (the Real Time Clock) so it does not awaken the system from Suspend mode.
The choice: Enabled, Disabled.

Ring/LAN Power Up Control

This option is used to set the remote ring in and Wake on LAN (WOL) features.
The choice: Enabled, Disabled.

PCIPME Power Up Control

An input signal from PME on the PCI card awakens the system from a soft off state.
The choice: Enabled, Disabled.

PS2KB WakeUp from S3/S4/S5

This item allows you use any key, hot key, password to power on.
The choice: Any key, Hot key, Password.

Note: Hot key is Ctrl + Alt + Backspace

PS2MS WakeUp from S3/S4/S5

This item allows you use PS/2 Mouse to power on.
The choice: Enabled, Disabled.

Power Up by Alarm

This option allows you to have the system turn on at a present time each day or on a certain day.
The choice: Disabled, Enabled.

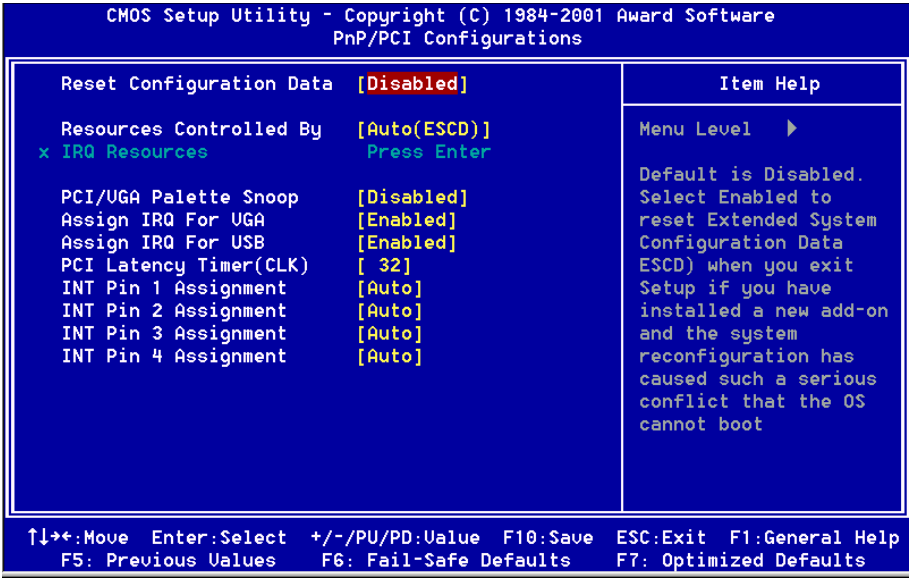
** *Reload Global Timer Events* **

Reload Global Timer events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as *Enabled* , even when the system is in a power down mode.

Primary IDE 0
Primary IDE 1
Secondary IDE 0
Secondary IDE 1
FDD, COM, LPT Port
PCI PIRQ[A-D] #

4-6 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
PnP/PCI Configurations
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Assign IRQ For VGA [Enabled]
Assign IRQ For USB [Enabled]
PCI Latency Timer(CLK) [32]
INT Pin 1 Assignment [Auto]
INT Pin 2 Assignment [Auto]
INT Pin 3 Assignment [Auto]
INT Pin 4 Assignment [Auto]
Item Help
Menu Level ▶
Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

The choice: Enabled, Disabled .

Resource controlled by

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows95.

The choice: Auto(ESCD), Manual.

PCI/VGA Palette Snoop

Leave this field at *Disabled*.
Choices are Enabled, Disabled.

Assign IRQ For VGA/USB

This item allows BIOS to assign whether IRQ is with VGA/USB or not. If you have not connect the VGA/USB device. Can release the IRQ for other device. The default is Enabled.
Enabled: Provides IRQ for VGA/USB device.
Disabled: Release IRQ for other device.

PCI Latency Timer (CLK)

The latency timer defines the minimum amount of time, in PCI clock cycles, that the bus master can retain the ownership of the bus.
The Choice: 0-255.

INT Pin1 to Pin4 Assignment

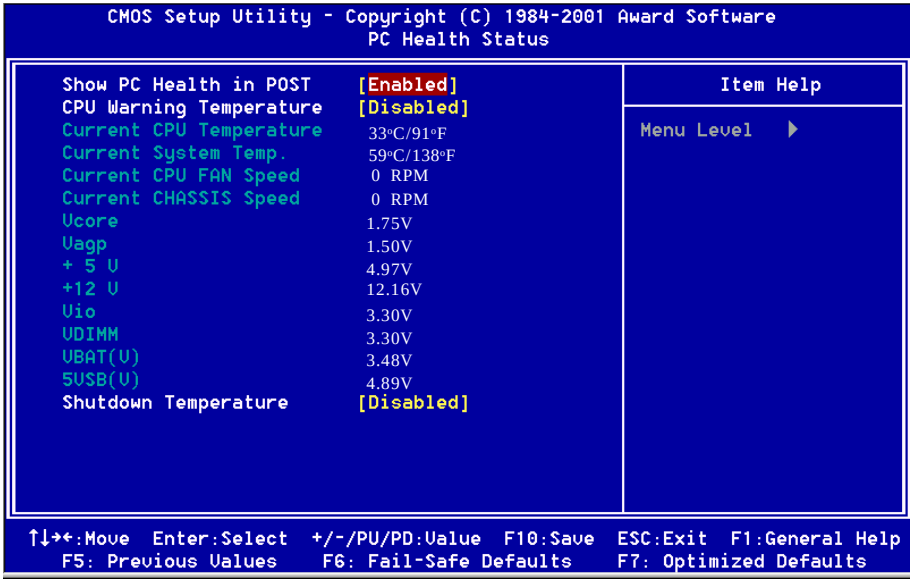
These settings allow the user to specify what IRQ will be assigned to PCI devices in the chosen slot. Options available: Auto,3,4,5,7,9,10,11,12,14 & 15. The defaults are Auto.

Interrupt request are shared as shown the table below:

	INT A	INT B	INT C	INT D
PCI 1		V		
PCI 2			V	
PCI 3				V
PCI 4	V			
PCI 5		V		
AGP Slot	V			
AC97/MC97			V	
Onboard USB1				V
Onboard USB2				V

IMPORTANT! *If using PCI cards on shared slots, make sure that the drivers support "Shared IRQ" or that the cards don't need IRQ assignments. Conflicts will arise between the two PCI groups that will make the system unstable or cards inoperable.*

4-7 PC Health Status


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
PC Health Status
Show PC Health in POST [Enabled]
CPU Warning Temperature [Disabled]
Current CPU Temperature 33°C/91°F
Current System Temp. 59°C/138°F
Current CPU FAN Speed 0 RPM
Current CHASSIS Speed 0 RPM
Vcore 1.75V
Vagp 1.50V
+ 5 V 4.97V
+12 V 12.16V
Vio 3.30V
VDIMM 3.30V
VBAT(V) 3.48V
5VSB(V) 4.89V
Shutdown Temperature [Disabled]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Show PC Health in Post

When enable this function, you can see PC Health in Post screen.
The choice: Enabled, Disabled.

CPU Warning Temperature

This is the temperature that the computer will respond to an overheating CPU. The default is Disabled.
Enabled: Temperature is monitored on the CPU.
Disabled: This feature is turned off.

Current CPU/System Temperature

This is the current temperature of the CPU/System.

Current CPU/CHASSIS Fan Speed

The current CPU/CHASSIS fan speed in RPMs.

Vcore

The voltage level of the Vcore.

Vagp

The voltage level of Power supplied to AGP card.

Vio

The voltage level of the Vio.

VDIMM

The voltage level of the DRAM.

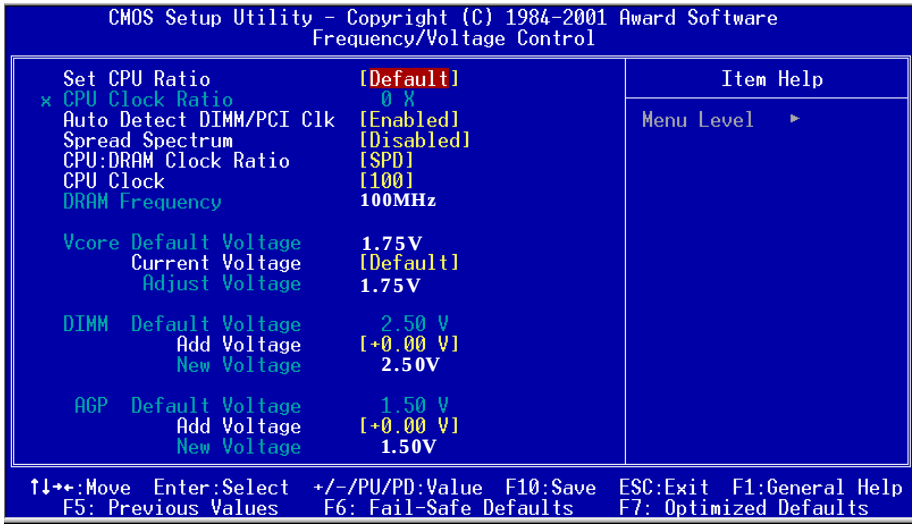
+5V, +12V, VBAT(V), 5VSB(V)

The voltage level of the switch power supply.

Shutdown Temperature

This is the temperature that the computer will turn off the power to combat the effects of an overheating system. (requires ACPI to be enabled in Power Management BIOS and ACPI compliant operating system.) The default is Disabled. Options available are 60°C/140°F to 75°C/167°F in increments of 5°C.

4-8 Frequency/Voltage Control


CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Frequency/Voltage Control
Set CPU Ratio [Default]
x CPU Clock Ratio 0 X
Auto Detect DIMM/PCI Clk [Enabled]
Spread Spectrum [Disabled]
CPU:DRAM Clock Ratio [SPD]
CPU Clock [100]
DRAM Frequency 100MHz
Vcore Default Voltage 1.75V
Current Voltage [Default]
Adjust Voltage 1.75V
DIMM Default Voltage 2.50 V
Add Voltage [+0.00 V]
New Voltage 2.50V
AGP Default Voltage 1.50 V
Add Voltage [+0.00 V]
New Voltage 1.50V
Item Help
Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Set CPU Ratio

This item allows you to select the CPU ratio by “CPU Default” or “ Manual” item. The default is “CPU Default”.

Ratio Value

When set to CPU Ratio by “Manual”, this item allows you to adjust CPU Ratio by step.

Auto Detect DIMM/PCI Clk

This item allows you to enable or disable auto detect DIMM/PCI Clock.
The choice: Enabled, Disabled.

Spread Spectrum

This item allows you to enable or disable the spread Spectrum.
The choice: Enabled, Disabled.

CPU:DRAM Clock Ratio

This item allows you to select CPU and DRAM clock ratio.
The choice: 1:1, 3:4, 3:5; 4:3, 1:1, 4:5; 1:1, 5:4,SPD.

Note: When the FSB is between 100 to 119MHz, the options will display 1:1, 3:4, 3:5,SPD.
When the FSB is between 120 to 160MHz, the options will display 4:3, 1:1, 4:5,SPD.
When the FSB is between 161 to 200MHz, the options will display 1:1, 5:4, 5:3,SPD.

CPU Clock

The mainboard is designed to set the CPU Clock via BIOS. This item allows you to adjust CPU clock 1MHz by step. The default speed depends on what CPU was installed.

Note: Overclocking failure will cause system No display problem. At this moment, please press "Insert" key to back to the initial or default setting to boot up your system.

DRAM Frequency

DRAM frequency information. (No option/Display only).

Vcore Voltage

This item allows you to select the CPU Vcore Voltage.
The option: Default, +0.025V increment.

DIMM Voltage

This item allows you to increase the DRAM Voltage.
The option: +0.1V increment.

AGP Voltage

This item allows you to increase the Vagp Voltage. (Applicable when you plug in AGP card).(4X AGP only).
The option: +0.1V increment.

4-9 Defaults Menu

Selecting “Defaults” from the main menu shows you two options which are described below

Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing ‘Y’ loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing ‘Y’ loads the default values that are factory settings for optimal performance system operations.

4-10 Set Supervisor/User Password

You can set either supervisor or user password, or both of then. The differences between are:
supervisor password : can enter and change the options of the setup menus.
user password : just can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password. To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.
Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.
You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

4-11 Exit Selecting

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

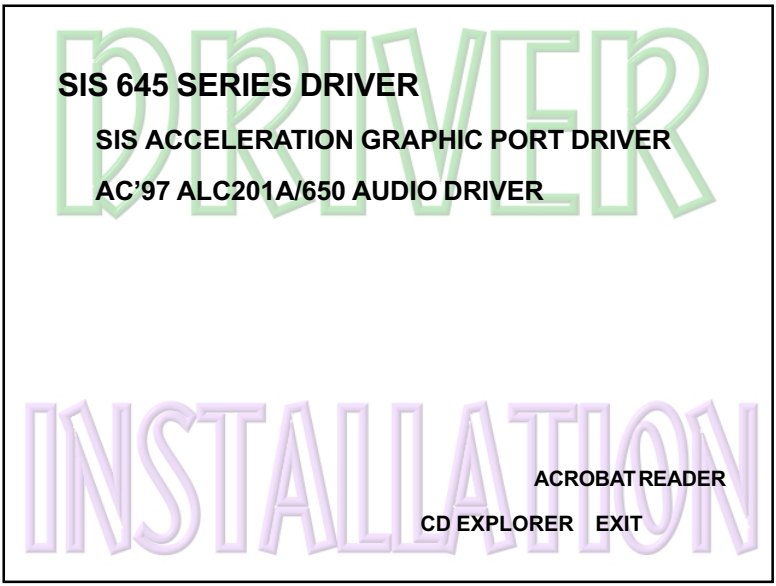
Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

Section 5
Driver Installation

Easy Driver Installation



Insert the bundled autorun driver CD-disk.

Step 1 : Click the **"SIS ACCELERATION GRAPHIC PORT DRIVER"** to install all components recommended.

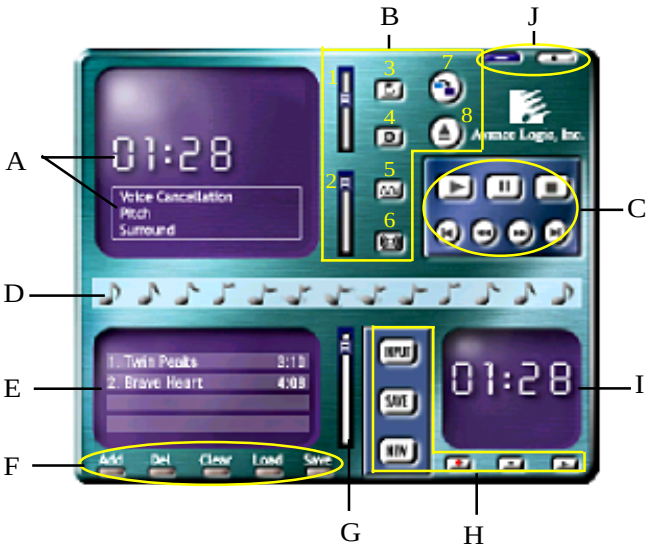
Step 2 : Click the **"AC'97 ALC201A/650 AUDIO DRIVER"** to install audio.

Page Left Blank

Appendix A

A-1 Avance® Media Player User's Guide

Avance® Media Player Platform



Functional Descriptions

A. Playback Windows Display

Playback windows displays the following mode information:

1. Playback Time Display
2. Voice Cancellation Mode Display
3. Pitch Mode Display
4. Surround Sound Mode Display

B. Playback Function Controls

There are 8 selectable functions for the playback:

1. Volume control — High/Low Adjustment Bar.
2. Pitch control — 4-step High/Low Adjustment Bar.

3. Repeat mode — Choice of Repeat, All Repeat, Random or No Repeat Mode.

4. Mute — Mute On/Off Mode select.

5. Voice cancellation — Voice Cancellation On/Off Mode select for Karaoke.

6. Surround mode — A total of 26 Surround Sound mode select as shown in the table below.

Surround mode	Surround mode
Generic	Stone corridor
Padded	Alley
Room	Forrest
Bathroom	City
Living room	Mountain
Stone	Quarry
Auditorium	Plain
Concert	Parking lot
Cave	Sewer pipe
Arena	Under water
Hangar	Drug
Carpet	Dizzy
Hallway	Psychological

7. Skin change — Media Player Skin Type select.

8. Open — Open file formats including MP3, CDA, MDI, WAV & WMA support.

C. Playback Controls

The playback controls include “Play”, “Pause”, “Stop”, “Previous”, “Backward”, “Forward”, & “Next”.

D. Seeking bar

Display Animated Playback Status

E. Title/Play List Windows

Display Currently Selected Title(s)

F. Title/Play List Edit Controls

There title/play list controls include “Add”, “Del”, “Clear”, “Load”, & “Store”.

1. Add	Add to the Title/Play List.
2. Del	Remove form the Title/Play List.
3. Clear	Clear the Title/Play Lost.
4. Load	Load Title/Play List.
5. Store	Save Title/Play List.

G. Title/Play List Scroll bar

Scroll Up/Down the Title/Play List.

H. Recording Function Controls

The recording function controls include “Input”, “Save:, “New”, “Rec”, “Stop”, & “Play”.

1. Input	Input soruce select.
2. Save	Save to file.
3. New	Open new file & select format includes Sampling Rate, Sampling bit, Mono or Stereo.
4. Rec	Start Rec.
5. Stop	Stop Rec.
6. Play	Playback Rec file.

I. REC/Playback Time Display

Displays REC/Playback Time.

J. Platform Display Panel Controls

The platform display panel control include “Minimize” & “Close”.

1. Minimize	Minimize Platform Display Panel.
2. Close	Close/Exit Platform Display Panel.

Page Left Blank

Appendix B

B-1 Update Your System BIOS

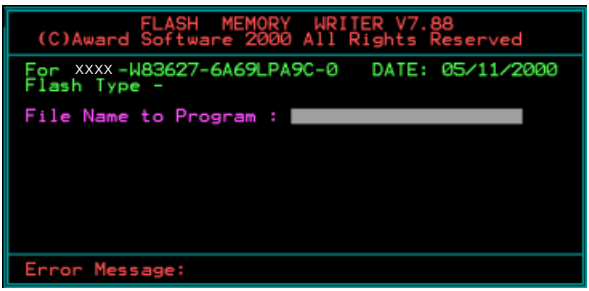
Download the xxxxx.EXE file corresponding to your model form the our website to an empty directory on your hard disk or floppy. Run the downloaded xxxxx.EXE file and it will self extract. Copy these extracted files to a bootable DOS floppy disk.

Note: The DOS floppy disk should contain NO device drivers or other programs.

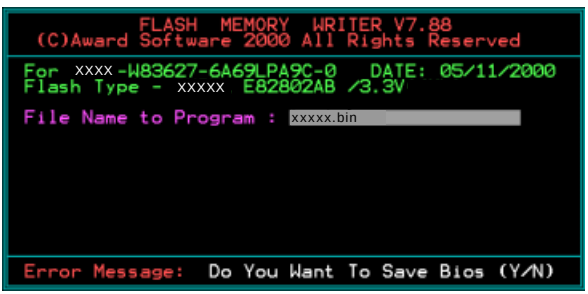
1. Type "A:\AWDFLASH and press <Enter> Key.

2. You will see the following setup on screen.

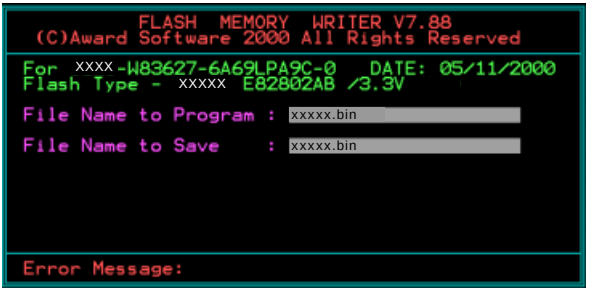
3. Please key in the xxxxx.bin BIOS file name.


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For xxxx-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type -
File Name to Program :
Error Message:

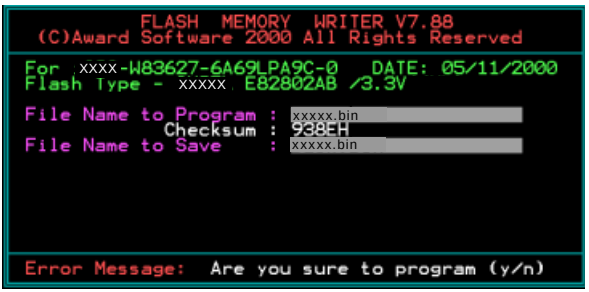
4. If you want to save the previous BIOS data to the diskette, please key in [Y], otherwise please key in [N].


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For xxxx-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type - xxxxx E82802AB /3.3V
File Name to Program : xxxxx.bin
Error Message: Do You Want To Save Bios (Y/N)

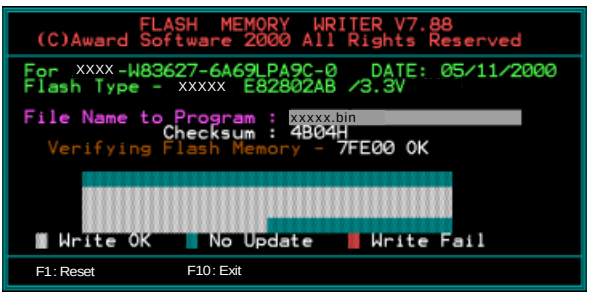
5. Key in File Name to save previous BIOS to file.


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For XXXX-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type - XXXXX E82802AB /3.3V
File Name to Program : xxxxx.bin
File Name to Save : xxxxx.bin
Error Message:

6. Are you sure to program (y/n), please key in [Y] to start the programming.


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For XXXX-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type - XXXXX E82802AB /3.3V
File Name to Program : xxxxx.bin
Checksum : 938EH
File Name to Save : xxxxx.bin
Error Message: Are you sure to program (y/n)

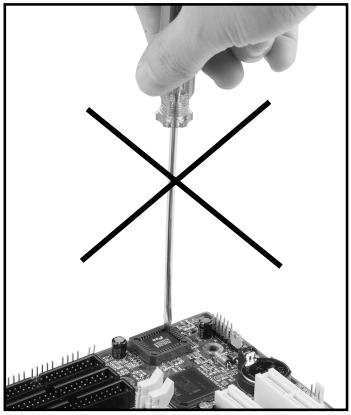
7. The programming is finished.

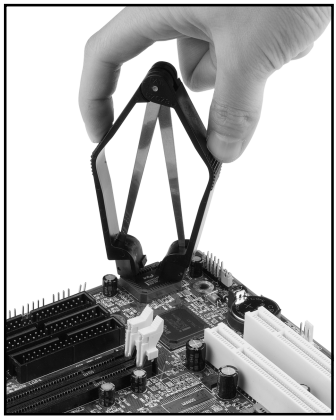


Appendix C

C-1 EEPROM BIOS Remover

Do not remove the BIOS chip, unless instructed by a technician and only with a PLCC IC extractor tool.





The BIOS socket may be damaged if using an improper method to replace the BIOS chip.

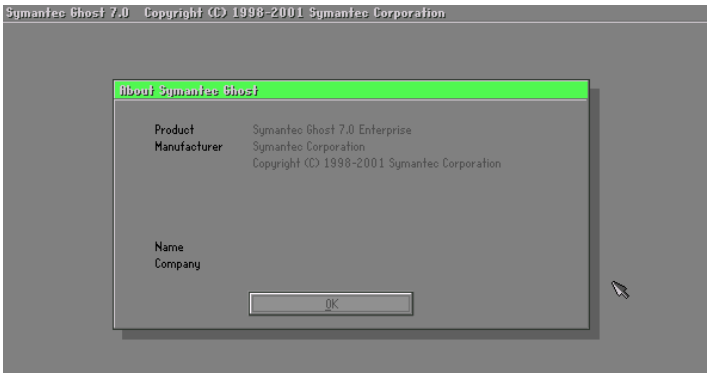
Page Left Blank

Appendix D

D-1 GHOST 7 Quick User's Guide (Optional)

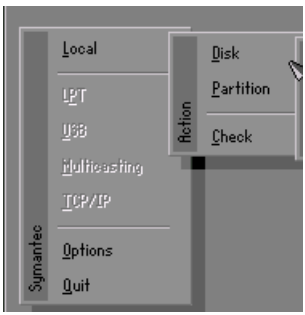
Installation is very easy. You only need to copy the **Ghost7** folder or **Ghost.exe** to your hard disk.

Main Menu



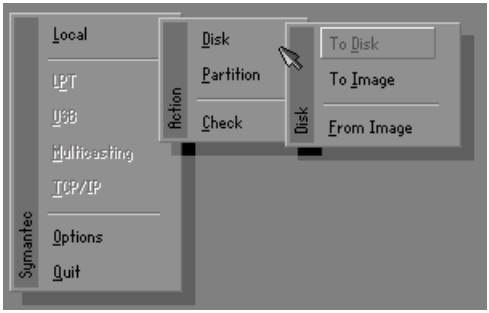
Description of Menu

Ghost clones and backs up **Disk** and **Partition.**



In which **Disk** indicates hard disk options
Partition indicates partition options
Check indicates check options

Disk



There are 3 hard disk functions:

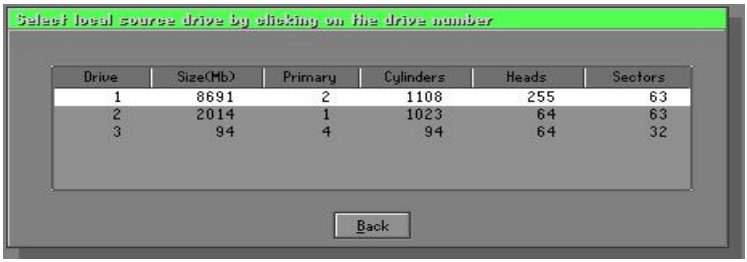
1. Disk To Disk (disk cloning)
2. Disk To Image (disk backup)
3. Disk From Image (restore backup)

Important!

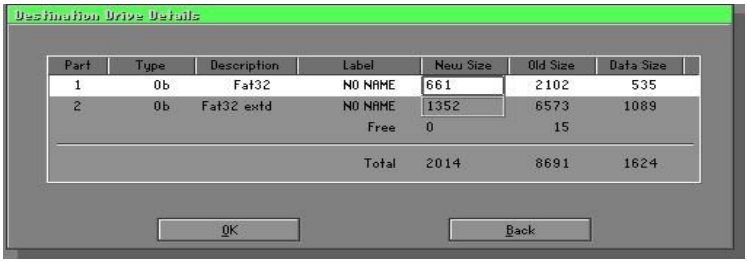
1. To use this function, the system must have at least 2 disks. Press the **Tab** key to move the cursor.
2. When restoring to a destination disk, all data in that disk will be completely destroyed**.**

Disk To Disk (Disk Cloning)

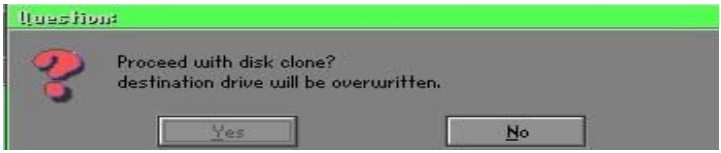
1. Select the location of the **Source drive**.
2. Select the location of the **Destination drive**.



3. When cloning a disk or restoring the backup, set the required partition size as shown in the following figure.

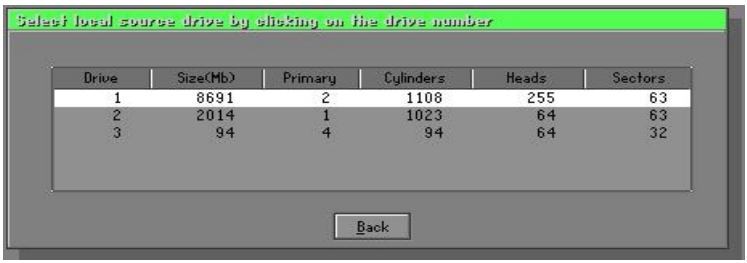


4. Click OK to display the following confirmation screen. Select **Yes** to start.

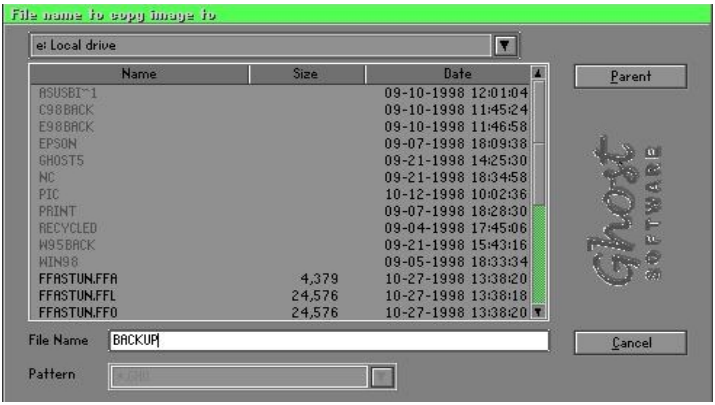


Disk To Image (Disk Backup)

1. Select the location of the Source drive.



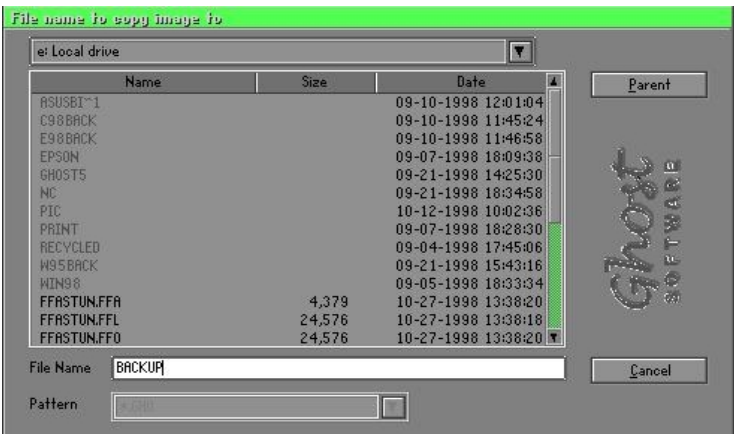
2. Select the location for storing the backup file.



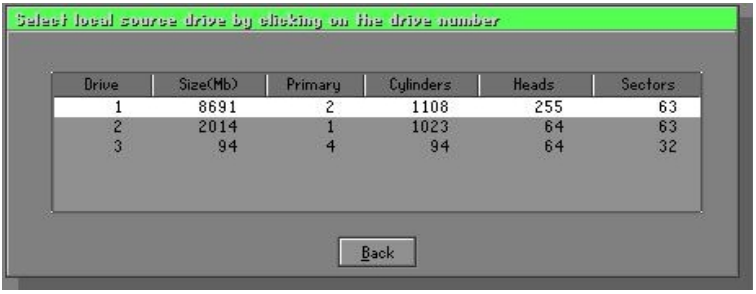
3. Click **OK** to display the following confirmation screen. Select **Yes** to start.

Disk From Image (Restore Backup)

1. Select the Restoring file.

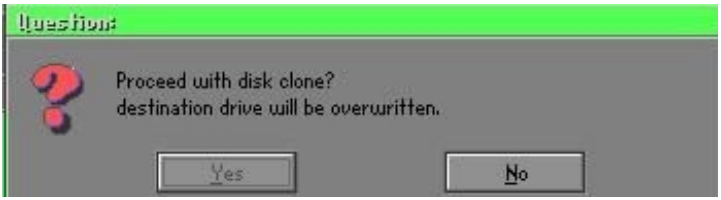


2. Select the **Destination drive** of the disk to be restored.

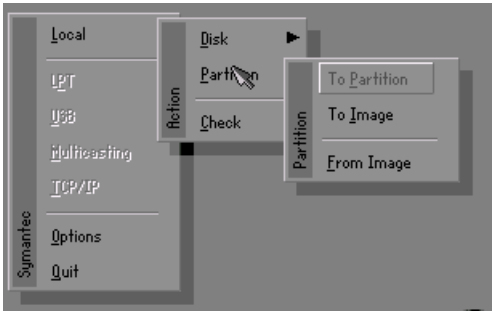


3. When restoring disk backup, set the required partition size as shown in the following figure.

4. Click **OK** to display the following confirmation screen. Select **Yes** to start.



Partition



There are 3 partition functions:

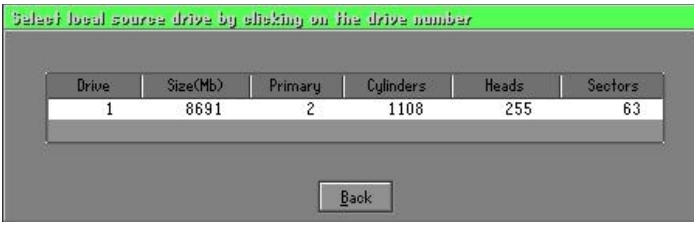
1. **Partition To Partition** (partition cloning)
2. **Partition To Image** (partition backup)
3. **Partition From Image** (restore partition)

Partition To Partition (Partition Cloning)

The basic unit for partition cloning is a “partition”. Refer to “disk cloning” for the operating method.

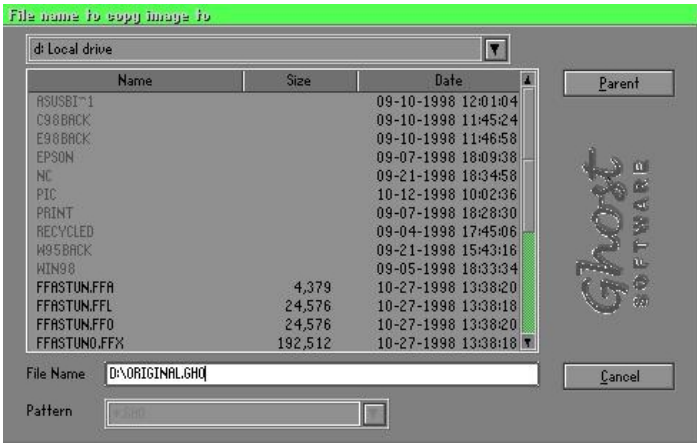
Partition To Image (Partition Backup)

1. Select the disk to be backed up.



2. Select the first partition to be backed up. This is usually where the operating system and programs are stored.

3. Select the path and file name to store the backup file.

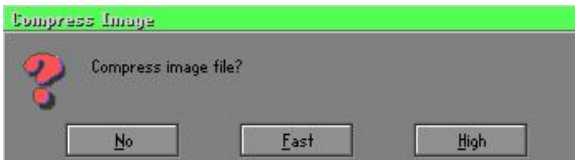


4. Is the file compressed? There are 3 options:

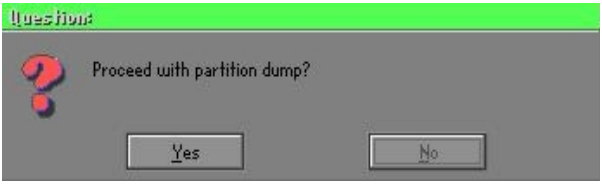
   (1) No: do not compress data during backup

   (2) Fast: Small volume compression

   (3) High: high ratio compression. File can be compressed to its minimum, but requiring longer execution time.

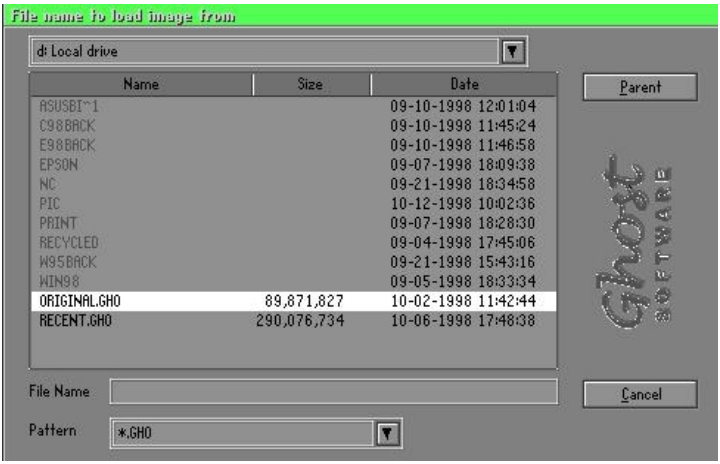


5. Select Yes to start performing backup.



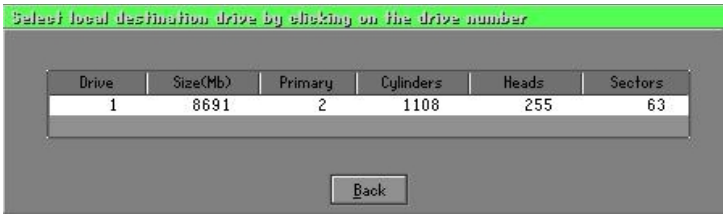
Partition From Image (Restore Partition)

1. Select the backup file to be restored.



2. Select the source partition.

3. Select the disk to be restored.



4. Select the partition to be restored.

5. Select Yes to start restoring.

Check

This function is to check possible error caused by defective FAT or track during backup or restoring.

How to Reinstall Windows in 2 Minutes

This chapter guides you how to setup your computer properly and, if necessary, reinstall Windows in 2 minutes. **Ghost** provides different methods to complete this task. The following two sections explain how to create an emergency **Recover Floppy** and **Recover CD**:

Emergency Recover Floppy

Divide a hard disk into two partitions. The first partition is to store the operating system and application programs. The second partition is to back up the operating system and data. The size of the partition can be determined according to the backup requirements. For example, the **Windows** operating system needs 200MB of hard disk space, Plus complete **Office** programs require 360MB. The remaining space can be used to store data.

After installing **Windows,** use **Ghost** to create a backup area for the system and to store the file (Image file) in drive D. The file is named **Original.gho**. Then, create a recover floppy disk containing:

- Bootable files (Command.com, Io.sys, and MSDOS.SYS)
- Config.sys (configuration setup file)
- Autoexec.bat (auto-execution batch file)
- Ghost.exe (Ghost execution file)

There are two ways to create the content of the recover floppy for restoring:

(1) To load **Windows** automatically after booting, store the **Autoexec. bat** file with a command line:

Ghost.exe clone, mode=pload, src=d:\original.gho:2,dst=1:1 -fx -sure -rb

Command Description: Runs the restore function automatically with the Image File. Stored in drive D. After execution, it will exit Ghost and boots the system.

Refer to the [Introducing Ghosts Functions] for details.

(2) After booting, the screen displays the Menu. Select Backup or Restore: Since the user may install other applications in the future, he/she may alter **Autoexec.bat** file to back up or restore the user-defined Image file as follows:

☞ **Backup**

Back up Windows and application programs as a file (Recent. gho). Command is:

Ghost –clone,mode=pdump,src=1:1,dst=d:\Recent.gho -fx -sure -rb

☞ **Restore**

Restore types include **[General Windows]** and **[Windows and Application Programs].** If you select **[General Windows],** the system is restored to the general **Windows** operation condition. The command is:

Ghost.exe -clone,mode=pload,src=d:\Original.gho,dst=1:1 -fx -sure -rb

If you select **[Windows and Application Programs],** the latest backup file (Recent.gho) is restored, skipping the installation and setup of application programs.

For description of related parameters, refer to **[Introducing Ghosts Functions]**.

For more information about menu design, refer to Config.sys and Autoexec.bat under /Menu in the CD. You can also create a backup CD containing Ghost.exe and these two files.

Recover CD

The following is a simple guide to create a recover CD:

1. First, create a recover floppy disk contains the following with any copy program such as “Easy CD Create” (Note 2) :

   Bootable files (Command.com and Io.sys and MSDOS.SYS)

   Config.sys (Configuration setup file)

   Autoexec.bat (Auto-execution batch file)

   Mscdex.exe (CD-Rom execution file)

   Ghost.exe (Ghost execution file)

   Oakcdrom.sys (ATAPI CD-ROM compatible driver)

   The content of Config.sys is:

   ```
   DEVICE=Oakcdrom.sys /d:idecd001
   ```

   The content of Autoexec.bat includes:

   ```
   MSCDEX.EXE /D:IDECD001 /L:Z
   Ghost.exe clone,mode=load,src=z:\original.gho,dst=1 -sure -rb
   ```

2. Write the backup image file (original.gho) of the entire hard disk or partition into the recover CD. Use the Recover CD to boot up the system and restore the backup files automatically.

For description of related parameters, refer to **[Introducing Ghosts Functions]**.

Note: For more details about copy the creation program and method to create a recover CD, please refer to the releated software and its associated operating manual.

Ghost Command Line Switches Reference

Ghost may be executed in interactive or in batch mode. Most of the Ghost switches are used to assist in batch mode operation. To list switches, type ghost.exe -h.

-clone

The full syntax for this switch is:

clone,MODE={**copy**|**load**|**dump**|**pcopy**|**pload**|**pdump**}**,SRC=** {drive|file|drive**:**partition|,**DST=**{drive|file|drive**:**partition},**SZE**{**F**|**L**|**n=** {nnnn**M**|nn**P**|**F**|**V**}}

Clone using arguments. This is the most useful of the batch switches and has a series of arguments that define:

a) MODE Defines the type of clone command, can be:

COPY	disk to disk copy
LOAD	file to disk load
DUMP	disk to file dump
PCOPY	partition to partition copy
PLOAD	file to partition load
PDUMP	partition to file dump

b) SRC Defines the source location of the command:

Mode	**Meaning:**
COPY/ DUMP	Source drive (e.g, 1 for drive one)
LOAD	Disk image filename or device (e.g, g:\Images\system2.img)
PCOPY/ PDUMP	Source partition e.g, 1:2 indicates the second partition on drive one.
PLOAD	Partition image filename or device and partition number. Example: g:\images\disk1.img:2 indicates the second partition in the Image file.

c) DST This defines the destination location for the operation:

Mode	Meaning
COPY/ LOAD	Destination drive (e.g, 2 for drive two)
DUMP	Disk image filename or device,(e.g, g:\images\system2.img)
PCOPY/ PLOAD	Destination partition,(e.g, 2:2 indicates the second partition on drive two).
PDUMP	Partition image filename (e.g, g:\images\part1.img).

d) SZEy Partition size to be transferred.

Available Options:

F — Resizes the first partition to maximum size allowed based on file system type.

L — Resizes the last partition to maximum size allowed based on file system type.

n=xxxxM - indicates that the n?h destination partition is set to have a size of xxxx Mb. (e.g, SZE2=800M indicates partition two is to have 800 mb.) n=mmP indicates the destination partition is set to have a size of mm percent of the target disk.

n=F - indicates the destination partition is remaining fixed size.

n=V - Indicates that the partition will be resized according to the following rules:

Rule 1 - If the destination disk is larger than the original source disk, then the partition(s) will be expanded to have the maximum amount of space subject to the free space available and the partition type (e.g, FAT16 partitions will have a maximum size of 2048Mb.)

Rule 2 - If the destination disk is smaller than the original source disk, (but still large enough to accommodate the data from the source disk), the free space left over after the data space has been satisfied will be distributed between the

destination partitions in proportion to the data usage in the source partitions Someexamples follow that will help illustrate:

-fx flag Exit. Normally when Ghost has finished copying a new system to a disk, it prompts the user to reboot with a press Ctrl-Alt-Del to reboot window. However, if Ghost is being run as part of a batch file it is sometimes useful to have it just exist back to the DOS prompt after completion so that further batch commands may be processed. -fx enables this. See -rb for another option on completing a clone.

-ia Image All. The Image All switch forces Ghost to do a sector by sector copy of all partitions. When copying a partition from a disk to an image file or to another disk, Ghost examines the source partition and decides whether to copy just the files and directory structure, or to do an image (sector by sector) copy. If it understands the internal format of the partition it defaults to copying the files and directory structure. Generally this is the best option, but occasionally if a disk has been set up with special hidden security files that are in specific positions on the partition , the only way to reproduce them accurately on the target partition is via an image or sector-by-sector copy.

-span enables spanning across volumes.

-split=x splits image file into ‘x’ Mb? Mb spans. Use this to create a ‘forced’ size volume set. For example, if you would like to force smaller image files from a 1024 Megabyte drive, you could specify 200 megabyte segments.For example, ghost. exe -split=200 will divide the image into 200 Megabyte segments.

-sure use the -sure switch in conjunction with -clone to avoid being prompted with the final ‘Proceed with disk clone destination drive will be overwritten?’. This command is useful in batch mode.

Example 1:
To copy drive one to drive two on a PC, without final prompt if OK to proceed.
ghost.exe -clone,mode=copy,src=1,dst=2 –sure

Example 2:
To connect via NetBIOS to another PC running Ghost in slave mode, and dump a disk image of local drive two to the remote file c:\drive2.gho
ghost.exe -clone,mode=dump,src=2,dst=C:\drive2.gho -nbm
Note: The slave Ghost can start with ghost –nbs command

Example 3:
To copy drive one of second partition from a PC to drive two of first of the same PC,
ghost.exe -clone,mode=pcopy,src=1:2,dst=2:1 –sure

Example 4:
To dump the second partition of drive one to an image file on a mapped drive g:
ghost.exe -clone,mode=pdump,src=1:2,dst=g:\part2.gho

Example 5:
To load partition 2 from a two-partition image file on a mapped drive g: onto the second partition of the local disk
ghost -clone,mode=pload,src=g:\part2.gho:2,dst=1:2

Example 6:
To load drive 2 from an image file and resize the destination partitions into a 20:40 allocation
ghost.exe -clone,mode=load,src=g:\2prtdisk.gho,dst=2,sze1=60P,
sze2=40P